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Documentation of the GLAS Fourth Order General Circulation Model

Volume II: Scalar Code

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DOCUMENTATION OF THE GLAS FOURTH ORDER GENERAL CIRCULATION MODEL

VOLUME II: SCALAR CODE

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CHAPTER I

INTRODUCTION

I. INTRODUCTION

Volume II of the documentation of the GLAS fourth order general circulation model contains compiler listings of the scalar version of the model for the CYBER 205 computer system. At the time of this work the FORTRAN compiler in use at the NASA High Speed Computing Facility was Version 2.0 Cycle VK2G.

The FORTRAN language for the CYBER 200 series contains both Control Data Corporation and unique CYBER 200 extensions to the standard FORTRAN (American National Standards X3.9-1966). These extensions allow the FORTRAN user to take full advantage of the vector processing architecture of the computer. The code contained herein however, makes no use of the unique CYBER 200 extensions and is therefore referred to as scalar. As a consequence, the program is suboptimal with regard to computational speed but offers the intended advantages of portability to an Amdahl 470-equivalent computer and of allowing investigators with scant familiarity of vector syntax to adapt the code in conventional FORTRAN.

It should be noted that the scalar code presented here and the vectorized code presented in Volume III are identical in the sense that zero differences are obtained on all prognostic and diagnostic quantities after three simulated hours of integration.

Chapter II contains a dictionary of the FORTRAN variables used in the scalar version of the model. For each variable, a brief description is provided along with the units, common block, if any, where the variable is included, and the subroutine(s) where the variable appear(s).

Chapter III contains the listings of the FORTRAN code compiled with the "C" option. As a result, cross reference maps of local variables are included for each subroutine.

CHAPTER II

VARIABLE NAME DICTIONARY FOR THE SCALAR CODE

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VARIABLE LIST OF THE GLAS 4TH-ORDER MODEL

VARIABLE	COMMON	SUBRTN	VARIABLE DESCRIPTION
A		FILFFT	ARRAY TO FILTER.
AAA		COMP3	LOCAL TEMPORARY VARIABLE.
ACLEAR	DSOLAR	SOLAR1	INCIDENT SOLAR RADIATION MULTIPLIED BY FRACTIONAL CLEAR AREA.
ACLOUD	DSOLAR	SOLAR1	INCIDENT SOLAR RADIATION MULTIPLIED BY FRACTIONAL CLOUDY AREA.
ADATE		CUTCHK	CONTAINS MM/DD/YY.
ADATE	CCNTRL	GWSGCM	MM/DD/YY FOR CURRENT RUN.
ADLDP	RDPARM	COMP2	SPHERICAL COORDINATE SCALING FACTOR.
ADLDP		DEPEND	
ADLDP		COMP2	SPHERICAL COORDINATE SCALING FACTOR.
AG		LINKHO	TEMPORARY VARIABLE USED IN FLUX QUADRATURE.
AL		O3INT	LOCAL TEMPORARY VARIABLE.
AL	RADCOM	SOLAR1	USED IN THE CALCULATION OF ABSORBED SOLAR RADIATION IN CLEAR AND CLOUDY SKIES.
ALBDO1	MNTHLY	CLOUDS	DAILY MONTHLY DATA FIELD.
ALBDO2	MNTHLY	DAILY	MONTHLY DATA FIELD.
ALBEDO	QANDQT	DAILY	MODEL ALBEDO FIELD.
AOZONE	STAT FUNC	RADIO	
APHEL	RCNTRL	SOLAR1	FUNCTION USED TO OBTAIN ABSORPTION OF SOLAR RADIATION DUE TO OZONE.
APRI		DAILY	DAY OF YEAR OF EARTH'S APOGEE.
AS		LINKHO	TEMPERATURE CORRECTION TO THE OPTICAL DEPTH OF WATER VAPOR.
AS	RADCOM	COMP3	ABSORBED SOLAR RADIATION.
ASGL		RADIO	
ASGLM1		SOLAR1	
ATIME		COMP3	1./DSIG(L)
ATIME		COMP3	1./DSIG(LM1)
AV		CUTCHK	HH/MM/SS
AV1		GWSGCM	HH/MM/SS FOR CURRENT RUN.
AWATER	STAT FUNC	LINKHO	TEMPORARY VARIABLE USED FOR VARIOUS THINGS.
BB		LINKHO	TEMPORARY VARIABLE USED FOR VARIOUS THINGS.
BBB		SOLAR1	FUNCTION USED TO OBTAIN ABSORPTION OF SOLAR RADIATION DUE TO WATER VAPOR.
BB1		CLOUDS	PLANCK FUNCTION EVALUATED AT A GIVEN RADIATION MODEL LEVEL.
BETA	RCNTRL	LINKHO	LOCAL TEMPORARY VARIABLE.
BG		COMP3	PLANCK FUNCTION EVALUATED AT 1 MB LEVEL.
BLANK		LINKHO	MOIST ADIABATIC LAPSE RATE.
BPRI		SMSHAP	PLANCK FUNCTION EVALUTATED AT THE GROUND.
C		LINKHO	CHARACTER ARRAY CONTAINING BLANKS.
CA	COMMON	DEFALT	TEMPERATURE CORRECTION TO THE OPTICAL DEPTH OF WATER VAPOR.
CAP		LINKHO	CONSTANTS USED IN CURTIS-GOODSON APPROXIMATION.
CAPPSI		LINKHO	CHARACTER ARRAY FOR HISTORY HEADER.
CAP1		LINKHO	CORRECTED SPECIFIC HUMIDITY.
CAP2		LINKHO	COEFFICIENT USED TO GET CORRECTED SPECIFIC HUMIDITY.
CARD	COMMON	LINKHO	INTERPOLATION COEFFICIENT
CATA	COMMON	LINKHO	INTERPOLATION COEFFICIENT
CC	CCNTRL	INPUT	WORK SPACE TO READ INPUTZ NAMELIST.
CCC		AVRX	TEMPORARY USED TO COMPUTE SEA LEVEL PRESSURE.
OD	DCOMP3	SMSHAP	
		CONHTR	ARRAY OF CHARACTER VARIABLES ON MODEL HISTORY RECORD.
		IOQ	
		COMP3	LOCAL TEMPORARY VARIABLE.
		COMP3	SURFACE DRAG COEFFICIENT.

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CDATE	RADCOM	OZONE2	CALENDAR DAY ASSOCIATED WITH THE FOUR SEASONS.
CDATEI		OZONE2	CALENDAR DAY LIMIT USED IN INTERPOLATION.
CDATEJ		OZONE2	CALENDAR DAY LIMIT USED IN INTERPOLATION.
CDAY		OZONE2	CALENDAR DAY.
CDC		CONTR	STRING REPRESENTING CDC READABLE RECORDS.
CDFR	CNTRLP	COMP3	FRICTIONAL WIND SHEAR ADJUSTMENT PARAMETER.
CDXL	CNTRLP	CONSTA	
CDXO	CNTRLP	COMP3	DRAW COEFFICIENT ADJUSTMENT PARAMETER OVER LAND
CG		CONSTA	DRAW COEFFICIENT ADJUSTMENT PARAMETER OVER OCEANS.
CLEAR	DSOLAR	LINKHO	
CLH	CNTRLP	SOLAR1	LOGICAL VARIABLE WHICH IS TRUE IF NO CLOUDS ARE PRESENT.
		CLOUDS	ARE PRESENT.
		COMP3	RATIO OF LATENT TO SPECIFIC HEAT.
		CONSTA	
CLOUD	RADCOM	CUMULO	
		COMP3	VARIABLE REPRESENTING EXISTING CLOUD TYPES.
		CUMULO	
		LINKHO	
		SOLAR1	
CLOUDY	DSOLAR	SOLAR1	LOGICAL VARIABLE WHICH IS TRUE IF CLOUDS ARE PRESENT.
CM		LINKHO	USED IN CALCULATION OF THE OPTICAL DEPTH OF WATER DIMER.
CMASS		CONSTA	10 X MASS OF A COLUMN OF AIR EXTENDING TO SEA LEVEL PRESSURE.
CMI		LINKHO	SAME AS CM.
CMI1		LINKHO	SAME AS CM.
CNUCUB		LINKHO	PARAMETER USED IN PLANCK'S FUNCTION.
COE	CNTRLP	COMP3	TEMPERATURE CHANGE RESULTING FROM AN INPUT OF ONE CALORIE TO A GIVEN LAYER L OF A UNIT COLUMN OF AIR.
COEF	CNTRLP	CONSTA	TEMPERATURE CHANGE RESULTING FROM IN INPUT OF ONE CALORIE TO A UNIT COLUMN OF AIR.
COEFS	CNTRLP	COMP3	PARAMETERIZED CONSTANT.
		CONSTA	
COLMR	DCOMP3	COMP3	COLUMN MASS RATIO.
CONT		LINKHO	USED IN WATER DIMER CALCULATION.
CONT1		LINKHO	USED IN WATER DIMER CALCULATION.
CONT2		LINKHO	USED IN WATER DIMER CALCULATION.
CONV	QMSAVE	COMP1	MASS CONVERGENCE AT A GIVEN LEVEL.
CON1	RDPARM	VERT	
		COMP0	CONSTANT USED IN POLE EQUATIONS.
		COMP1	
		DEPEND	
CON2	RDPARM	VERT	
		COMP0	CONSTANT USED IN POLE EQUATIONS.
		COMP1	
		DEPEND	
CON3	RDPARM	VERT	
		COMP0	CONSTANT USED IN POLE EQUATIONS.
		DEPEND	
CON4	RDPARM	COMP0	CONSTANT USED IN POLE EQUATIONS.
		DEPEND	
CON1DT	RDPARM	COMP0	CON1 * DT.
		COMP1	
CON2DT	RDPARM	COMP0	CON2 * DT.
		COMP1	
CON3DT	RDPARM	COMP0	CON3 * DT.
		COMP2	
CON4DT	RDPARM	COMP0	CON4 * DT.
		COMP2	
CON5	RDPARM	COMP2	SCALING CONSTANT.
		DEPEND	
COSD	RCNTRL	VERT	
		COMP3	COSINE OF SOLAR DECLINATION.
COSJ		DAILY	
		DEFALT	USED IN COMPUTING WEIGHT FUNCTION FOR GLOBAL AVERAGES.
		PMEAN	

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COSL	RDPARM	DEPEND	COSINE OF LATITUDE.
COSLON	RDPARM	SOLAR1 COMP1 COMP2 DEPEND POLINP SMSHAP SOLAR1 VERT	COSINE OF LONGITUDE.
COSMAG	DSOLAR	SOLAR1	MAGNIFICATION FACTOR FOR SLANT PATH AND
COSROT	CNTRLP	CLOUDS	REFRACTION OF SOLAR RADIATION.
COSZ	RADCOM	CONSTA	COSINE OF EARTH'S ROTATION.
CP	RCNTRL	SOLAR1	COSINE OF SOLAR ZENITH ANGLE.
CPD2	RDPARM	DEPEND	SPECIFIC HEAT AT CONSTANT PRESSURE.
GPP	CNTRLP	GEOHT DEPEND GEOHT COMP3 CONSTA CUMULO	CP / 2. SPECIFIC HEAT AT CONSTANT PRESSURE.
CQ1P			SPECIFIC HUMIDITY CHANGE AT PRIMED LEVEL 1
CQ3P		CUMULO	FROM CUMULUS PARAMETERIZATION.
CQ5P		CUMULO	SAME AS CQ1P BUT FOR PRIMED LEVEL 3.
CTID	CNTRLP	COMP3	SAME AS CQ1P BUT FOR PRIMED LEVEL 5.
CTIN		CONSTA LINKHO	THERMAL CONDUCTIVITY OF ICE.
CTINF		LINKHO	TRANSMISSION FUNCTION OF CARBON DIOXIDE
CTTRANS		LINKHO	BETWEEN 1 MB AND A GIVEN MODEL RADIATION
CT1P		CUMULO	LEVEL.
CT3P		CUMULO	SAME AS CTIN BUT FOR 5 MB.
CT5P		CUMULO	TRANSMISSION FUNCTION OF CARBON DIOXIDE
CUMDAY	CNTRLP	COMP3	BETWEEN TWO MODEL RADIATION LEVELS.
CUMRAT	CNTRLP	CONSTA COMP3 CONSTA RADIO CUTCHK GWSSGCM	TEMPERATURE CHANGE AT PRIMED LEVEL 1
CUTOFF			FROM CUMULUS PARAMETERIZATION.
CVQ	RADCOM	COMP3	SAME AS CT1P BUT FOR PRIMED LEVEL 3.
CVQ1P	DCUMU	CUMULO	SAME AS CT1P BUT FOR PRIMED LEVEL 5.
CVQ3P	DCUMU	CUMULO	THE NUMBER OF HISTORY WRITES PER DAY.
CVQ5P	DCUMU	CUMULO	INVERSE OF THE NUMBER OF PHYSICS CALLS
CVT	RADCOM	COMP3	BETWEEN HISTORY WRITES.
CVT1P	DCUMU	CUMULO	DD/HH/MM
CVT3P	DCUMU	CUMULO	TOTAL SPECIFIC HUMIDITY CHANGE DUE TO
CVT5P	DCUMU	CUMULO	CUMULUS CONVECTION.
CX		SMSHAP	TOTAL SPECIFIC HUMIDITY CHANGE AT PRIMED
CXD		CUMULO	LEVEL 1 FROM CUMULUS PARAMETERIZATION.
CXL	RADCOM	CUMULO	SAME AS CVQ1P BUT FOR PRIMED LEVEL 3.
CY		SMSHAP	SAME AS CVQ5P BUT FOR PRIMED LEVEL 5.
CZFAC		COMP35	TOTAL TEMPERATURE CHANGE DUE TO CUMULUS
CZH	RADCOM	COMP3	CONVECTION.
C10	CNTRLP	COMP3	TOTAL TEMPERATURE CHANGE AT PRIMED LEVEL 1
C100	CNTRLP	COMP3	FROM CUMULUS PARAMETERIZATION.
C40	CNTRLP	COMP3	SAME AS CVT1P BUT FOR PRIMED LEVEL 3.
D		DEFAULT	SAME AS CVT1P BUT FOR PRIMED LEVEL 5.
		PMEAN	WEIGHTED FACTOR FOR SHAPIRO FILTER -
		CLOUDS	X DIRECTION.
			TOTAL MASS FLUX INTO CLOUD FOR MIDDLE AND
			PENETRATING CONVECTION.
			TOTAL MASS FLUX INTO CLOUD FOR LOW-LEVEL
			CONVECTION.
			WEIGHTED FACTOR FOR SHAPIRO FILTER -
			Y DIRECTION.
			TOTAL HEAT CAPACITY OVER LAND OR FROST.
			TOTAL HEAT CAPACITY.
			NUMERICAL CONSTANT.
			NUMERICAL CONSTANT.
			NUMERICAL CONSTANT.
			LOCAL TEMPORARY VARIABLE.

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DA		CLOUDS	ABSORBED SOLAR RADIATION ABOVE CLOUDS.
DARK	DSOLAR	OZONE2	LOGICAL FLAG FOR DARKNESS.
		SOLAR1	
		CLOUDS	
DATA	COMMON	AVRX	HIGH LATITUDE FILTER COEFFICIENTS.
		PRDIAG	CONTAINS WAVE-NUMBERS OF SEA LEVEL PRESSURE.
		DEFAULT	
		SMSHAP	
DAYSPY	RCNTRL	DAILY	NUMBER OF DAYS IN A YEAR.
DB		CLOUDS	ABSORBED SOLAR RADIATION BELOW CLOUDS.
DDSIG		COMP3	RATIO OF TWO ADJACENT THICKNESSES.
DEC	RCNTRL	DAILY	SUN DECLINATION.
DECMAX	RCNTRL	DAILY	MAXIMUM SUN DECLINATION.
		DEPEND	
DELNU		LINKHO	FREQUENCY WIDTH OF SPECTRAL INTERVAL.
DELTA	CNTRLP	SOLAR1	NUMERICAL CONSTANT.
DELTAP		DAILY	CORRECTION FOR ATMOSPHERIC MASS LOSS.
DENOM		COMP3	LOCAL TEMPORARY VARIABLE.
		CLOUDS	
DIABAT	QANDQT	COMP3	TOTAL DIABATIC HEATING.
		DEPEND	
		INITSD	
DIST	RCNTRL	DAILY	FRACTION OF A YEAR ELAPSED SINCE EARTH'S APHELION.
DL		DEFAULT	LATITUDINAL GRID LENGTH.
		PMEAN	
DLAT		OZONE2	ABSOLUTE VALUE OF LATITUDE.
DLATI		OZONE2	INTERPOLATED LATITUDE.
DLATJ		OZONE2	INTERPOLATED LATITUDE.
DLON	RCNTRL	DEPEND	LONGITUDINAL GRID LENGTH.
DLONG		DEFAULT	LONGITUDINAL GRID LENGTH.
DNORM		DEFAULT	RATIO OF LONGITUDINAL TO LATITUDINAL GRID LENGTH.
DP		LINKHO	PRESSURE DIFFERENCE BETWEEN TWO ADJACENT MODEL RADIATION LEVELS.
DPI		DEFAULT	PI.
DP1		LINKHO	PRESSURE DIFFERENCE BETWEEN 1 MB AND 5 MB LEVELS.
DP2		LINKHO	PRESSURE DIFFERENCE BETWEEN 5 MB LEVEL AND THE FIRST MODEL RADIATION LEVEL.
DRAD		COMP3	CHANGE IN UPWARD FLUX OF LONGWAVE RADIATION WITH RESPECT TO GROUND TEMPERATURE.
DRAW	DCOMP3	COMP3	AIR/SURFACE INTERACTION COEFFICIENT.
DSHS	DCOMP3	COMP3	DIFFERENCE BETWEEN SATURATED AND UNSATURATED SPECIFIC HUMIDITY AT THE GROUND.
DSIG	RDPARM		SIGMA LEVEL THICKNESS, USED IN MOST SUBROUTINES.
DSQG		COMP3	CHANGE IN UPWARD FLUX OF LATENT HEAT WITH REPECT TO GROUND TEMPERATURE.
DS1P		CUMULO	VERTICAL GRID INCREMENT AT PRIMED LEVEL 1 USED IN CUMULUS PARAMETERIZATION.
DS3P		CUMULO	SAME AS DS1P BUT FOR PRIMED LEVEL 3.
DS5P		CUMULO	SAME AS DS1P BUT FOR PRIMED LEVEL 5.
DT	RCNTRL	COMP0	MODEL TIME-STEP IN SECONDS.
		COMP1	
		COMP2	
		GWSGCM	
DTG3	CNTRLP	COMP3	PHYSICS TIME-STEP IN SECONDS.
		CONSTA	
DTL		COMP3	TOTAL DIABATIC HEATING.
DTOUT	CNTRLP	CONSTA	TIME BETWEEN HISTORY WRITES.
DTS	DCOMP3	COMP3	TEMPERATURE DIFFERENCE BETWEEN THE GROUND AND THE TOP OF THE PBL.
DU		COMP3	ZONAL WIND DIFFERENCE BETWEEN SURFACE AND LEVEL NLAY.
DUDVS		COMP3	SQUARE OF WIND DIFFERENCES.
DUMMY		CLOCKS	LOCAL TEMPORARY VARIABLE.
DV		COMP3	MERIDIONAL WIND DIFFERENCE BETWEEN SURFACE AND LEVEL NLAY.
DXDATE		OZONE2	INTERPOLATED DATE.
DXDLAT		OZONE2	INTERPOLATED LATITUDINAL GRID DISTANCE.

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DXOCM DXP	RDPARM	OZONE2 COMP1 COMP2 DEPEND VERT	INTERPOLATED OZONE INCREMENT. LONGITUDINAL GRID DISTANCE.
DXPRO		OZONE2	SCALING FACTOR USED IN VERTICAL OZONE INTERPOLATION.
DXYP	RDPARM	COMP1 COMP2 DEPEND SCALEQ VERT	AREA OF LONGITUDE-LATITUDE GRID ELEMENT.
DYP	RDPARM	COMP1 COMP2 DEPEND VERT	MERIDIONAL GRID DISTANCE.
ECCN ED	RCNTRL CNTRLP	DAILY COMP3 CONSTA	ECCENTRICITY OF EARTH'S ORBIT. COEFFICIENT USED IN AIR/SURFACE INTERACTION.
EDLE EDNM EDNS EDV	CNTRLP	COMP3 COMP3 COMP3 COMP3	COEFFICIENT OF VERTICAL DIFFUSION. MINIMUM ALLOWABLE DIFFUSIVITY COEFFICIENT. EDDY DIFFUSIVITY COEFFICIENT. EDDY DIFFUSIVITY COEFFICIENT DIVIDED BY PBL THICKNESS.
EFLUX	QANDQT	COMP3 INITSD	UPWARD LATENT HEAT FLUX.
ETP EVACO EVAL EVAPO3	DCOMP3	CLOUDS COMP3 COMP3 CUMULO	LOCAL TEMPORARY VARIABLE. EVAPORATION COEFFICIENT. LATENT HEAT OF EVAPORATION. EVAPORATED MOISTURE AT PRIMED LEVEL 3 FOR LOW-LEVEL CUMULUS CLOUDS.
EVAPO5 EVE EX	DCOMP3	CUMULO COMP3 COMP3 CUMULO	SAME AS EVAPO3 BUT FOR PRIMED LEVEL 5. SOIL EVAPOTRANSPIRATION COEFFICIENT. LOCAL VARIABLE USED IN CONVECTIVE STABILITY TESTS.
EXL EXPBYK	FUNCTION	COMP3 COMP1 COMP3 DEPEND EXPBYK GEOHT SMASHAP	LOCAL VARIABLE USED IN SUPERSATURATED CLOUDS FUNCTION WHICH COMPUTES P RAISED TO THE POWER ROCP.
EXPNO F FC FCLD	DSOLAR	GWGCM FILFFT SOLAR1 SOLAR1 CLOUDS	EXPERIMENT NUMBER. CONTAINS WAVE-NUMBER FILTERS. FRACTIONAL CLOUDY AREA. LOGICAL FLAG FOR FRACTIONAL CLOUDINESS.
FCLEAR FCLOUD FCOEF	DSOLAR DSOLAR CNTRLP	SOLAR1 SOLAR1 COMP3 CONSTA	FRACTIONAL AREA OF CLEAR SKY. FRACTIONAL AREA OF CLOUDY SKY. COEFFICIENT FOR INTERNAL FRICTION DUE TO VERTICAL WIND SHEAR.
FCOEF1 FCORLS	DCOMP3 RDPARM	COMP3 COMP2 DEPEND	INTERNAL WIND SHEAR COEFFICIENT. CORIOLIS PARAMETER.
FDAT1		DAILY	WEIGHT FOR TIME INTERPOLATION FROM MONTHLY AVERAGES.
FDAT2		DAILY	WEIGHT FOR TIME INTERPOLATION FROM MONTHLY AVERAGES.
FDAY FDXYP FILTER	LDPARM	DAILY COMP2 COMP0 DEPEND INPUT	REAL VALUE OF CURRENT JULIAN DAY. SCALED CORIOLIS PARAMETER. LOGICAL FLAG FOR FOURIER FILTERS.
FJEQ FK FKK FLD	RADCOM COMMON	DEPEND CLOUDS CLOUDS SMASHAP	EQUATOR GRID POINT INDEX. FREQUENCY PROBABILITY DISTRIBUTION FUNCTION. LOCAL TEMPORARY VARIABLE. TEMPORARY ARRAY TO HOLD THE FIELD BEING FILTERED.
FLUX1 FLUX2 FMU	CNTRLP	COMP1 COMP1 COMP3	LOCAL TEMPORARY VARIABLE. LOCAL TEMPORARY VARIABLE. COEFFICIENT OF INTER-LAYER FRICTION.

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FRAC1		CONSTA	SPECIFIC HUMIDITY STRAPPING PARAMETER.
FRAC2		CUMULO	SPECIFIC HUMIDITY STRAPPING PARAMETER.
FROST	RADCOM	COMP3	LOGICAL FROST INDICATOR.
		COMP35	
FSCAT	DSOLAR	SOLAR1	FRACTION OF INCIDENT SOLAR RADIATION AFTER SCATTERING.
FSURF		COMP3	EFFECTIVE SURFACE FRICTION COEFFICIENT.
FUSION	QANDQT	COMP3	HEATING DUE TO CONDUCTION THROUGH SEA ICE.
		INITSD	
FWET	CNTRLP	COMP3	LIMITING GROUND WETNESS FOR POTENTIAL
		CONSTA	EVAPOTRANSPIRATION RATE.
FX		COMP2	MOMENTUM TENDING DUE TO CORIOLIS FORCE.
F1DT	RDPARM	COMP0	8 * DT.
		COMP2	
F2DT	RDPARM	COMP0	- DT.
		COMP2	
G		LINKHO	WATER DIMER DATA.
GAM	RADCOM	COMP3	LATENT HEATING PARAMETER.
		CUMULO	
GAMC		COMP3	TEMPERATURE DIFFERENCE RELATING TO MOIST AND DRY ADIABATIC LAPSE RATES.
		COMP3	LATENT HEATING PARAMETER.
GAMFAC	CNTRLP	COMP3	
		CONSTA	
		CUMULO	
GAMS		COMP3	LATENT HEATING PARAMETER AT THE SURFACE.
GAMIP	DCUMU	CUMULO	LATENT HEATING PARAMETER AT PRIMED LEVEL 1.
GAM3P	DCUMU	CUMULO	LATENT HEATING PARAMETER AT PRIMED LEVEL 3.
GNU1	RCNTRL	DEPEND	CENTER TIME AVERAGING TERM.
		TIMAVG	
GNU2	RCNTRL	COMP0	OUTER TIME AVERAGING TERM.
		DEPEND	
		DEFAULT	
		TIMAVG	
GRAV	RCNTRL	COMP3	GRAVITATIONAL ACCELERATION.
		CONSTA	
		CUMULO	
		SMSHAP	
GRNDP		LINKHO	GROUND PRESSURE.
GSTAR		SOLAR1	SCALED WATER VAPOR COEFFICIENT.
GT	QANDQT	COMP3	GROUND TEMPERATURE.
		COMP35	
		CONSTA	
		DAILY	
		SMSHAP	
GTOPO	CNTRLP	SOLAR1	SCALED WATER VAPOR COEFFICIENT.
GW	QANDQT	COMP3	GROUND WETNESS.
		COMP35	
		DAILY	
GW1	MNTHLY	DAILY	HOLDS CLIMATOLOGY OF GROUND WETNESS FOR ONE MONTH.
GW2	MNTHLY	DAILY	HOLDS CLIMATOLOGY OF GROUND WETNESS FOR ONE MONTH.
HACOS		SOLAR1	SOLAR ZENITH ANGLE COEFFICIENT.
HFLUX	QANDQT	COMP3	UPWARD FLUX OF SENSIBLE HEAT.
		INITSD	
HH	RADCOM	COMP3	MOIST STATIC ENERGY AT MID-LEVELS.
		CUMULO	
HHE	RADCOM	COMP3	MOIST STATIC ENERGY AT EDGE-LEVELS.
		CUMULO	
HHS	RADCOM	COMP3	SATURATION MOIST STATIC ENERGY.
		CUMULO	
HH2P	DCUMU	CUMULO	MOIST STATIC ENERGY AT PRIMED LEVEL 2.
HH3P	DCUMU	CUMULO	MOIST STATIC ENERGY AT PRIMED LEVEL 3.
HH4P	DCUMU	CUMULO	MOIST STATIC ENERGY AT PRIMED LEVEL 4.
HH5P	DCUMU	CUMULO	MOIST STATIC ENERGY AT PRIMED LEVEL 5.
HH1SP	DCUMU	CUMULO	SATURATION MOIST STATIC ENERGY AT PRIMED LEVEL 1.
HH3SP	DCUMU	CUMULO	SATURATION MOIST STATIC ENERGY AT PRIMED LEVEL 3.
HIC	ICNTRL	CONHTR	HALF PRECISION VARIABLE EQUIVALENCED TO IC.

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HICE	CNTRL	COMP3	EFFECTIVE OCEAN-ICE THICKNESS.
HKSS		CONHTR	KS TO USE ON HISTORY TAPE.
HKUS		CONHTR	KU TO USE ON HISTORY TAPE.
HWORK	COMMON	CONHTR	HALF PRECISION WORK ARRAY.
H1DT	RDPARM	COMP0	4 X DT.
		COMP1	
H2DT	RDPARM	COMP0	- 0.5 X DT.
		COMP1	
I			LONGITUDINAL INDEX USED IN MOST SUBROUTINES.
IA	COMMON	CONHTR	INTEGER ARRAY FOR HISTORY TAPE HEADER
IBB		LINKHO	LONGITUDINAL INDEX.
IBM		CONHTR	STRING REPRESENTING IBM READABLE RECORDS.
IC	ICNTRL	IOQ	INTEGER MODEL PARAMETERS ON HISTORY RECORDS.
IC		QSAT	LOCAL TEMPORARY VARIABLE.
ICE	RADCOM	COMP3	LOGICAL FLAG FOR ICE.
		COMP35	
ICLK		CUTCHK	INTEGER WITH CURRENT CLOCK READING.
ICKHC		CUTCHK	CHARACTER ARRAY EQUIVALENCED TO ICHK.
ICLOUD	QANDQT	COMP3	CONVECTIVE AND SUPERSATURATION CLOUDS.
		CUMULO	
		INITSD	
ICUT		CUTCHK	INTEGER WITH CUT-OFF TIME.
ICUTC		CUTCHK	CHARACTER ARRAY EQUIVALENCED TO ICUT.
IDAY		LINKHO	CURRENT JULIAN DAY.
IDAYH		STRATM	CURRENT JULIAN DAY.
IERR		CONHTR	ERROR FLAG.
IFALSE		CONHTR	HALF PRECISION ARRAY CONTAINING ZEROS.
II		COMP35	LOCAL TEMPORARY VARIABLE.
		CONSTA	
		LINKHO	
III		LINKHO	LOCAL TEMPORARY VARIABLE.
IJ		LINKHO	LOCAL TEMPORARY VARIABLE.
IJTEST		LINKHO	LOCAL TEST VALUE FOR DETERMINING
			INTERPOLATION FORMULA.
IJUMP	IDPARM	COMP0	ARRAY USED TO CHANGE LONGITUDINAL INDEX
		DAILY	INCREMENT. INC, TO IM AT THE POLES.
		DEPEND	
ILAT		STRATM	A MEASURE OF LATITUDE.
ILATH		STRATM	LATITUDE.
IM	ICNTRL		NUMBER OF GRID POINTS PER LATITUDE CIRCLE.
			USED IN MOST SUBROUTINES
IMD2	ICNTRL	AVRX	IM / 2.
		DEPEND	
		INPUT	
		PROIAG	
IMD2P1	ICNTRL	DEPEND	IMD2 + 1.
IMNLAY		CONHTR	IM * NLAY.
INC		COMP0	LONGITUDINAL INDEX INCREMENT.
		DAILY	
INCHMS	FUNCTION	GWSGCM	PERFORMS HOUR-MINUTE-SECOND ARITHMETIC.
INCYMD	FUNCTION	DAILY	INCREMENTS YR-MNTH-DAY BY ONE DAY.
INDEX	IDPARM	COMP2	ARRAY WITH LONGITUDINAL INDICES ASSOCIATED
		DEPEND	WITH I + IMD2.
		VERT	
INPHYS		CONSTA	NAME FOR PHYSICS INPUT NAMELIST.
INPUTZ		INPUT	INPUT MODEL PARAMETER NAMELIST.
IOFLAG		INPUT	CODE OF OPERATION TO PERFORM.
IOLD		STRATM	
		TWRITE	
IP1		COMP1	LONGITUDINAL INDEX PLUS 1.
		COMP2	
		VERT	
		SMSHAP	
IP2		COMP1	LONGITUDINAL INDEX PLUS 2.
		COMP2	
		VERT	
IRECS		IOQ	IM * KS.
IRECU		IOQ	IM * NLAY * KU.
IROD	IDPARM	INPUT	COUNTER.
		TWRITE	
ISS		GWSGCM	SENSE SWITCH SETTING FOR AMDAHL RUNS.

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IS1		COMP1	LONGITUDINAL INDEX MINUS 1.
		COMP2	
		VERT	
		SMSHAP	
IS2		COMP1	LONGITUDINAL INDEX MINUS 2.
		COMP2	
		VERT	
ITM		GWGCM	TIME REMAINING UNTIL END OF JOB.
ITRUE		CONHTR	HALF PRECISION ARRAY CONTAINING '1'.
IUP		LINKHO	CLOUD INDEX.
IW		PRDIAG	WAVE NUMBER FOR PRINT.
IWAVE		DEFAULT	TOTAL NUMBER OF RESOLVABLE WAVES.
IX		PRDIAG	LONGITUDINAL POINT OF PRESSURE DIAGNOSTIC.
		SMSHAP	$I + IMD2$.
IXM1		PRDIAG	$IX - 1$.
IXP		COMP2	LOCAL TEMPORARY VARIABLE.
		VERT	
IXP1		PRDIAG	$IX + 1$.
IXS		COMP2	LOCAL TEMPORARY VARIABLE.
		VERT	
I1		STRATM	
J			LATITUDINAL INDEX USED IN MOST SUBROUTINES
JAL		O3INT	$JALB, JNP - JALB - 1$.
JALB	RADCOM	LINKHO	LATITUDINAL GRID LOCATION.
		O3INT	
		RADIO	
		CLOUDS	
JC	IDPARM	COMP1	$MOD(J-1, MSM) + 1$
		COMP2	
		DEPEND	
		GEOHT	
		RESTQM	
		SAVEQM	
		TIMAVG	
		VERT	
JDAYH		STRATM	LOCAL TEMPORARY VARIABLE USED FOR
			TIME INTERPOLATION.
JE	IDPARM	COMP1	INDICIES OF SOUTH AND NORHT POLE.
		COMP2	
		DEPEND	
		POLINP	
		VERT	
JEND		COMP2	LOCAL TEMPORARY VARIABLE.
		VERT	
JIC	CONTRL	DEFAULT	EXPERIMENT IDENTIFIER.
JJ		CONSTA	LOCAL TEMPORARY VARIABLE.
		IOQ	
JJU		LINKHO	LOCAL TEMPORARY VARIABLE.
JL1		LINKHO	LOCAL TEMPORARY VARIABLE.
JL2		SMSHAP	LOCAL TEMPORARY VARIABLE.
JM	ICNTRL	SMSHAP	NUMBER OF LATITUDE BANDS IN GRID, USED IN
			MOST SUBROUTINES.
JMD2	ICNTRL	DEPEND	$(JM + 1) / 2$
		SMSHAP	
JMP1		INPUT	$JM + 1$.
		IOQ	
JMT2	ICNTRL	DEPEND	$JM + 2$.
		SMSHAP	
JM1		LINKHO	LOCAL TEMPORARY VARIABLE.
		OZONE2	
JNP	ICNTRL		NORTH POLE INDEX, USED IN MOST SUBROUTINES.
JOB	CCNTRL	DEFAULT	EXPERIMENT IDENTIFIER.
		GWGCM	
		TWRITE	
JP	IDPARM	COMP1	INDEX ARRAY USED FOR POLE COMPUTATIONS.
		COMP2	
		DEPEND	
		VERT	
JP1		COMP0	LATITUDINAL INDEX PLUS 1.
		COMP1	

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LCL1		100	
LCL2		CUMULO	LEVEL LIMIT FOR PENETRATING CONVECTION.
LEAP	STAT FUNC	CUMULO	LEVEL LIMIT FOR PENETRATING CONVECTION.
LFLAG		INCYMD	STAT FUNC USED AS FLAG FOR LEAP YEARS.
LL		TWRITE	RECORD TYPE FLAG.
		LINKHO	LOCAL TEMPORARY VARIABLE.
LLAY		SMSHAP	
LLLAY		LINKHO	NUMBER OF MODEL LAYERS.
LM		LINKHO	LOCAL TEMPORARY VARIABLE.
LM1		SMSHAP	LOCAL TEMPORARY VARIABLE.
		COMP3	VERTICAL INDEX MINUS 1.
		SHCORN	
LNB		SOLAR1	
		COMP1	VERTICAL INDEX ASSOCIATED WITH CURRENT
		COMP2	TIME STEP.
		VERT	
LND		COMP1	VERTICAL INDEX ASSOCIATED WITH PREVIOUS
		COMP2	TIME STEP.
		VERT	
LOGBR	ICNTRL	INPUT	RECORD FLAG: RESTART, HISTORY OR VBMAND.
LP1		TWRITE	
		COMP1	VERTICAL INDEX PLUS 1.
		GEOHT	
LP1NB		SOLAR1	
LP1ND		COMP1	LNB + 1.
LTM		COMP1	LND + 1.
LU		GWGCM	LAST CPU CLOCK TIME.
		DAILY	LOGICAL UNIT ON WHICH TO DO INPUT/OUTPUT.
		INPUT	
		100	
		TWRITE	
LUALB		DAILY	UNIT NUMBER FOR READING MONTHLY ALBEDO.
LUGW		DAILY	UNIT NUMBER FOR READING MONTHLY GR. WETNESS.
LUNEXT		TWRITE	UNIT NUMBER FOR MODEL HISTORY RECORDS.
LUSST		DAILY	UNIT NUMBER FOR READING MONTHLY TOPOGRAPHY
LUU		TWRITE	UNIT NUMBER FOR MODEL HISTORY RECORDS(8).
LWE		VERT	LNB + 1.
LX		COMP3	LOCAL TEMPORARY VARIABLE.
		GEOHT	
L1		CLOUDS	LOCAL TEMPORARY VARIABLE.
L2		LINKHO	LOCAL TEMPORARY VARIABLE.
		OSINT	
L3		LINKHO	LOCAL TEMPORARY VARIABLE.
M		LINKHO	LOCAL TEMPORARY VARIABLE, USED IN MOST
			SUBROUTINES.
MACHID		INPUT	MACHINE IDENTIFIER.
MATIN	ICNTRL	DEFAULT	MATSUNO STEPS TO INTEGRATE BEFORE CYCLE.
		GWGCM	
MATSNX	ICNTRL	DEFAULT	NEXT TIME-STEP SCHEME(0=LEAPFROG,1=MATSUNO).
		GWGCM	
MATSUN	ICNTRL	COMP0	CURR. TIME-STEP SCHEME(0=LEAPFROG,1=MATSUNO)
		DEFAULT	
		GWGCM	
MHMS		INCHMS	INCREMENT TIME IN HHMMSS FORMAT.
MJ	IDPARM		POLE GRID POINT INDICATOR, USED IN MOST
			SUBROUTINES.
MLF	ICNTRL	DEFAULT	TIME-STEP FLAGS FOR A COMPLETE SEQUENCE.
		GWGCM	
MODHMS	ENTRY	CONSTA	ENDING POINT IN FUNCTION INCHMS.
		GWGCM	ENDING POINT IN FUNCTION INCYMD.
MODYMD	ENTRY	DEPEND	
		GWGCM	
MONALB		DAILY	CURRENT MONTH OF ALBEDO.
MONGW		DAILY	CURRENT MONTH OF GROUND WETNESS.
MONSST		DAILY	CURRENT MONTH OF TOPOGRAPHY.
MO1		DAILY	MONTH INDEX FOR CLIMATOLOGY.
MO2		DAILY	MONTH INDEX FOR CLIMATOLOGY.
MPER	STAT FUNC	GWGCM	HHMMSS TIMESTEP COUNTER.
MROD	ICNTRL	DEFAULT	MAXIMUM NUMBER OF RECORDS TO WRITE.
		TWRITE	
MSEC		INCHMS	HHMMSS IN SECONDS.

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MSM	ICNTRL	DEPEND	NUMBER OF BANDS TO KEEP IN LOCAL STORAGE.
N			LOCAL TEMPORARY VARIABLE, USED IN MOST SUBROUTINES.
NAB		SOLAR1	LOW-LEVEL CONVECTION CLOUD PARAMETER.
NAC		SOLAR1	PENETRATING CONVECTION CLOUD PARAMETER.
NB	ICNTRL		TIME INDEX OF CURRENT STEP, USED IN MOST SUBROUTINES.
NBC		SOLAR1	MID-LEVEL CONVECTION CLOUD PARAMETER.
NCALL		CLOUDS	COUNTER.
NCL		CUMULO	COUNTER.
NCLEAR		CLOUDS	NUMBER OF LEVELS ABOVE HIGHEST CLOUD LAYER.
NCLR1		CLOUDS	NCLEAR + 1.
ND	ICNTRL		TIME INDEX OF PREVIOUS STEP, USED IN MOST SUBROUTINES.
NDALT	ICNTRL	DEFAULT	TIME INCREMENT TO INVOKE ANALYSIS.
		GWSGCM	
NDARK		SOLAR1	NUMBER OF NIGHT-TIME LONGITUDINAL GRID POINTS.
NDAT		DAILY	CURRENT DATE IN THE MODEL.
NDAY	ICNTRL	CONSTA	CURRENT JULIAN DAY.
		DAILY	
		DEPEND	
		RADIO	
NDHOG	ICNTRL	CONSTA	TIME INCREMENT BETWEEN CALLS TO THE LONGWAVE RADIATION.
NDOUT	ICNTRL	CONSTA	TIME INCREMENT TO WRITE HISTORY RECORDS.
		DEFAULT	
		GWSGCM	
NDPHY	ICNTRL	CONSTA	TIME INCREMENT TO INVOKE PHYSICS.
		DEFAULT	
		GWSGCM	
NDPM		INCYMD	THE NUMBER OF DAYS IN EACH MONTH.
NDRSW	ICNTRL	DEFAULT	TIME INCREMENT FOR RESTART WRITE.
		GWSGCM	
NDSHF	ICNTRL	DEFAULT	TIME INCREMENT TO INVOKE SHAPIRO FILTER.
		GWSGCM	
NDT	ICNTRL	DEFAULT	MODEL TIME STEP.
		GWSGCM	
NDTC3	CNTRLP	CONSTA	NUMBER OF SECONDS BETWEEN CALLS TO PHYSICS.
NF		LINKHO	LOCAL TEMPORARY VARIABLE.
NFF		LINKHO	LOCAL TEMPORARY VARIABLE.
NFK	RADCOM	CLOUDS	NUMBER OF FREQUENCY BANDS FOR SOLAR RADIATION ABSORPTION.
NFL		LINKHO	LOCAL TEMPORARY VARIABLE.
NFLW	CNTRLP	CONSTA	NUMBER OF FREQUENCY BANDS USED IN THE LONGWAVE RADIATION ROUTINE.
		LINKHO	
		RADIO	
NHMS	ICNTRL	CONSTA	CURRENT MODEL TIME.
		DAILY	
		DEPEND	
		GWSGCM	
		INCHMS	
		INPUT	
		TWRITE	
NHMSE	ICNTRL	DEFAULT	ENDING TIME.
		GWSGCM	
NHMSF	STAT FUNC	INCHMS	CONVERTS SECONDS TO HHMMSS FORMAT.
NHMS0	ICNTRL	DEFAULT	BEGINNING TIME.
NHMS1	IDPARM	DEPEND	TIME AT START OF EXPERIMENT.
		DEFAULT	
		INPUT	
NK		LINKHO	
NKRSH	ICNTRL	DEFAULT	FLAG FOR RESTART RECORD WRITE TO HISTORY.
		GWSGCM	
NLAY	ICNTRL		NUMBER OF VERTICAL LAYERS IN MODEL, USED IN MOST SUBROUTINES.
NLAYM1	ICNTRL		NLAY - 1, USED IN MOST SUBROUTINES.
NLAYN		GEOHT	LOCAL TEMPORARY VARIABLE.
NLAYNB		COMP1	NLAY * (NB - 1).
		COMP2	
		VERT	

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NLAYND		COMP1	NLAY * (NB - 1).
		COMP2	
		VERT	
NLAYOZ	RADCOM	SOLAR1	NUMBER OF LEVELS USED IN OZONE ABSORPTION OF SHORTWAVE RADIATION.
NLAYO1		OZONE2	NLAYOZ + 1.
		SOLAR1	
NLAYP1	ICNTRL		NLAY + 1, USED IN MOST SUBROUTINES.
NLAYP2		SOLAR1	NLAY + 2.
NLAYP3		SOLAR1	NLAY + 3.
NLE		LINKHO	LOCAL TEMPORARY VARIABLE.
NLEV		LINKHO	LOCAL TEMPORARY VARIABLE.
NM		INCYMD	LOCAL TEMPORARY VARIABLE.
		CLOUDS	
NMON		DAILY	CURRENT MONTH.
NMON1		DAILY	LOCAL TEMPORARY VARIABLE.
NMON2		DAILY	LOCAL TEMPORARY VARIABLE.
NN		LINKHO	LOCAL TEMPORARY VARIABLE.
		CLOUDS	
NOZ	RADCOM	OZONE2	NUMBER OF PRESSURE LEVELS USED IN OZONE VERTICAL INTERPOLATION.
NP		OZONE2	LOCAL TEMPORARY VARIABLE.
NSDAY	ICNTRL	CONSTA	CURRENT TIME OF MODEL DAY IN SECONDS.
		GWSGCM	
NSEC		INCHMS	INCREMENT TIME IN SECONDS.
NSECF	STAT FUNC	INCHMS	CONVERTS HHMMSS FORMAT TO SECONDS.
NSEQ	ICNTRL	DEFAULT	NUMBER OF STEPS IN COMPLETE TIME-SCHEME SEQUENCE.
		GWSGCM	
NSM		SMASHP	VARIABLE FOR LONGITUDINAL SMOOTHING.
NSTEP	ICNTRL	DEFAULT	TIME STEPS SINCE INITIAL START.
		GWSGCM	
NTH		GWSGCM	INDEX FOR NEXT TIME-STEP TYPE IN MLF.
NTM		GWSGCM	CURRENT CPU USAGE FROM CLOCKS.
NTOP	DSOLAR	SOLAR1	CLOUD TOP LEVEL.
		CLOUDS	
NTOPF	DSOLAR	SOLAR1	CLOUD TOP LEVEL FOR FRACTIONAL CLOUDINESS.
NTOPT	DSOLAR	SOLAR1	CLOUD TOP LEVEL FOR TOTAL CLOUDINESS.
NXTMOD	STAT FUNC	GWSGCM	ADDS ONE TO THE MOD FUNCTION.
NY		INCYMD	YEAR CONVERTED TO INTEGER.
NYMD	ICNTRL	DAILY	CURRENT MODEL DATE IN YYMMDD FORMAT.
		DEPEND	
		GWSGCM	
		INCYMD	
		INPUT	
		TWRITE	
NYMDE	ICNTRL	DEFAULT	ENDING DATE IN YYMMDD FORMAT.
		GWSGCM	
NYMD0	ICNTRL	DEFAULT	BEGINNING DATE IN YYMMDD FORMAT.
NYMD1	IDPARM	DEPEND	EQUAL TO NYMD.
		DEFAULT	
		INPUT	
NY00		INCYMD	INTEGER CONTAINING "1900".
N0		CLOUDS	LOCAL TEMPORARY VARIABLE.
N1		ADDQ	TIME STEP POINTER OF VALUES TO WHICH TO ADD.
		COPYQ	TIME STEP POINTER TO WHICH TO COPY VALUES.
		DIFFQ	TIME STEP POINTER FROM WHICH TO SUBTRACT.
		CLOUDS	LOCAL TEMPORARY VARIABLE.
N2		ADDQ	TIME STEP POINTER OF VALUES TO ADD.
		COPYQ	TIME STEP POINTER FROM WHICH TO COPY VALUES.
		DIFFQ	TIME STEP PTR. OF VALUES WHICH TO SUBTRACT.
OCEAN	RADCOM	COMP3	LOGICAL FLAG FOR OCEANS.
OCMXX	RADCOM	OZONE2	INTERPOLATED VERTICAL PROFILE FOR AN ARBITRARY TOTAL OZONE AMOUNT.
OCM22	RADCOM	OZONE2	VERTICAL PROFILE FOR OZONE AMOUNT OF .22 CM.
OCM30	RADCOM	OZONE2	VERTICAL PROFILE FOR OZONE AMOUNT OF .30 CM.
OCM38	RADCOM	OZONE2	VERTICAL PROFILE FOR OZONE AMOUNT OF .38 CM.
OCM46	RADCOM	OZONE2	VERTICAL PROFILE FOR OZONE AMOUNT OF .46 CM.
OD1		OZONE2	INTERPOLATED OZONE AMOUNT CORRESPONDING TO AN ARBITRARY LATITUDE AND DAY.
OD2		OZONE2	SAME AS OD1.
OLAPR	RADCOM	OZONE2	TOTAL VERTICAL OZONE AMOUNT IN APRIL.

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OLJAN	RADCOM	OZONE2	TOTAL VERTICAL OZONE AMOUNT IN JANUARY.
OLJUL	RADCOM	OZONE2	TOTAL VERTICAL OZONE AMOUNT IN JULY.
OLOCT	RADCOM	OZONE2	TOTAL VERTICAL OZONE AMOUNT IN OCTOBER.
OMEGA	QANDQT	INITSD	VERTICAL VELOCITY.
		VERT	
OMEGA2	RCNTRL	DEPEND	TWICE THE ANGULAR VELOCITY OF THE EARTH.
OZALE	RADCOM	OZONE2	OZONE AMOUNT IN A GIVEN LAYER.
		SOLAR1	
P	QANDQT		REFERENCE PRESSURE, USED IN MOST SUBROUTINES.
PAREA		PMEAN	AREA OF POLAR CAP.
PCLOW	PCON	COMP3	PRECIPITATION DUE TO LOW-LEVEL CONVECTION.
		CUMULO	
PCMID	PCON	COMP3	PRECIPITATION DUE TO MID-LEVEL CONVECTION.
		CUMULO	
PCPEN	PCON	COMP3	PRECIPITATION DUE TO PENETRATING CONVECTION.
		CUMULO	
PD		LINKHO	OPTICAL DEPTH OF WATER VAPOR AND WATER DIMER.
PDG		LINKHO	MEASURE OF THE RATIO OF PRESSURE TO GROUND PRESSURE.
PDOT		COMP2	LOCAL TEMPORARY VARIABLE.
		VERT	
PDP		LINKHO	MEASURE OF THE RATIO OF TWO ADJACENT PRESSURE LEVELS.
PDQ		LINKHO	RATIO OF SPECIFIC HUMIDITIES.
PDT		LINKHO	POTENTIAL TEMPERATURE DIFFERENCE.
PH		LINKHO	LOCAL TEMPORARY VARIABLE.
PHI	QANDQT	COMP2	GEOPOTENTIAL HEIGHT.
		GEOHT	
		LINKHO	
PHIBAR		GEOHT	LOCAL TEMPORARY VARIABLE.
PHI1		LINKHO	LOCAL TEMPORARY VARIABLE.
PHIL		GEOHT	GEOPOTENTIAL HEIGHT AT A GIVEN LEVEL.
PHIP	QPOLES	GEOHT	GEOPOTENTIAL HEIGHT AT THE POLES.
PHIS	QANDQT	COMP3	SURFACE GEOPOTENTIAL HEIGHT.
		GEOHT	
		SMSHAP	
PHIX1		COMP2	ZONALLY AVERAGED GEOPOTENTIAL HEIGHT.
PHIX2		COMP2	ZONALLY AVERAGED GEOPOTENTIAL HEIGHT.
PHIY1		COMP2	MERIDIONALLY AVERAGED GEOPOTENTIAL HEIGHT.
PHIY2		COMP2	MERIDIONALLY AVERAGED GEOPOTENTIAL HEIGHT.
PHI1		COMP2	TEMPORARY VARIABLE USED BY PRESSURE GRADIENT AT THE POLES.
PHI2		COMP2	SAME AS PHI1.
PHI1CS		COMP2	SAME AS PHI1.
PHI1SS		COMP2	SAME AS PHI1.
PHI2CS		COMP2	SAME AS PHI1.
PHI2SS		COMP2	SAME AS PHI1.
PI	RCNTRL	CONSTA	PI CONSTANT.
		DAILY	
		DEPEND	
PIM	CNTRLP	COMP3	STANDARD MODEL ATMOSPHERE PRESSURE DEPTH.
		CONSTA	
PIMEAN	RCNTRL	DAILY	GLOBAL MEAN PRESSURE.
		DEFALT	
PIT	QMSAVE	COMP1	NET COLUMN MASS CONVERGENCE.
		COMP2	
		VERT	
PIO		CLOUDS	SINGLE SCATTERING ALBEDO.
PI180	RCNTRL	CONSTA	CONVERSION FACTOR PI/180.0.
		DEPEND	
PI2	RCNTRL	COMP3	CONSTANT 2.0 X PI.
		CONSTA	
		DEPEND	
PK	COMMON	GEOHT	TEMPORARY VARIABLE USED TO COMPUTE PRESSURE GRADIENT.
PK1		COMP1	SAME AS PV.
		GEOHT	
PK2		COMP1	SAME AS PK.
		GEOHT	

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PKD1		GEOHT	SAME AS PK.
PKD2		GEOHT	SAME AS PK.
PKSTD	RDPARM	DEPEND	PSTD RAISED TO THE POWER ROCP.
PKTOP	RDPARM	GEOHT	
PL	RADCOM	DEPEND	PTOP RAISED TO THE POWER ROCP1.
		COMP3	REFERENCE PRESSURE AT MID-LEVELS.
		CUMULO	
PLE	RADCOM	LINKHO	
		COMP3	REFERENCE PRESSURE AT EDGE-LEVELS.
		LINKHO	
		OZONE2	
		SOLAR1	
PLEN		OZONE2	REFERENCE PRESSURE AT A GIVEN LEVEL.
PLK	RADCOM	COMP3	REFERENCE PRESSURE RAISED TO THE POWER ROCP.
PL2		GEOHT	PRESSURE AT EDGE OF LAYER.
PM	QMSAVE	LINKHO	SAVED BASE FIELD P.
		RESTQM	
		SAVEQM	
		TIMAVG	
PMEAN	FUNCTION	DAILY	CALCULATES GLOBAL MEAN SURFACE PRESSURE.
		DEFAULT	
PP	QPOLES		REFERENCE PRESSURE AT THE POLES. USED IN MOST SUBROUTINES.
PREACC	QANDQT	COMP3	TOTAL ACCUMULATED PRECIPITATION.
		INITSD	
PRECIP		COMP3	LARGE SCALE PRECIPITATION.
PRECON	QANDQT	COMP3	TOTAL CONVECTIVE PRECIPITATION.
		INITSD	
PREP	RADCOM	COMP3	TOTAL PRECIPITATION.
PROCM	RADCOM	OZONE2	ATMOSPHERIC MODEL PRESSURES AT MID-LEVELS.
PROCM1		OZONE2	PRESS. LIMIT USED IN PRESSURE INTERPOLATION.
PROCMJ		OZONE2	PRESS. LIMIT USED IN PRESSURE INTERPOLATION.
PRTSH		PRDIAG	FIELD AND GRID POINT LABEL.
PRTT		PRDIAG	FIELD AND GRID POINT LABEL.
PRTU1		PRDIAG	FIELD AND GRID POINT LABEL.
PRTU2		PRDIAG	FIELD AND GRID POINT LABEL.
PRTU3		PRDIAG	FIELD AND GRID POINT LABEL.
PRTU4		PRDIAG	FIELD AND GRID POINT LABEL.
PRTU5		PRDIAG	FIELD AND GRID POINT LABEL.
PRTU6		PRDIAG	FIELD AND GRID POINT LABEL.
PRTU7		PRDIAG	FIELD AND GRID POINT LABEL.
PRTU8		PRDIAG	FIELD AND GRID POINT LABEL.
PRTU9		PRDIAG	FIELD AND GRID POINT LABEL.
PRTV1		PRDIAG	FIELD AND GRID POINT LABEL.
PRTV2		PRDIAG	FIELD AND GRID POINT LABEL.
PRTV3		PRDIAG	FIELD AND GRID POINT LABEL.
PRTV4		PRDIAG	FIELD AND GRID POINT LABEL.
PRTV5		PRDIAG	FIELD AND GRID POINT LABEL.
PRTV6		PRDIAG	FIELD AND GRID POINT LABEL.
PRTV7		PRDIAG	FIELD AND GRID POINT LABEL.
PRTV8		PRDIAG	FIELD AND GRID POINT LABEL.
PRTV9		PRDIAG	FIELD AND GRID POINT LABEL.
PS		COMP0	SURFACE PRESSURE.
		COMP3	
PSK		COMP3	SURFACE PRESSURE RAISED TO THE POWER ROCP.
PSMAX	RCNTRL	COMP0	MAXIMUM ALLOWABLE REFERENCE PRESSURE.
		DEFAULT	
PSMIN	RCNTRL	COMP0	MINIMUM ALLOWABLE REFERENCE PRESSURE.
		DEFAULT	
PSTD	RCNTRL	CONSTA	REFERENCE PRESSURE FOR NORMALIZATION.
		DEFAULT	
PTOP	RCNTRL		CONSTANT PRESSURE AT THE TOP OF THE ATMOSPHERE, USED IN MOST SUBROUTINES.
PU	COMMON	COMP1	ZONAL MASS FLUX.
		VERT	
PU1	COMMON	COMP1	AVERAGED ZONAL MASS FLUX.
		VERT	
PU2	COMMON	COMP1	AVERAGED ZONAL MASS FLUX.
		VERT	
PV	QMSAVE	COMP1	MERIDIONAL MASS FLUX.
		VERT	

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PV1		COMP1	AVERAGED MERIDIONAL MASS FLUX.
		VERT	
PV2		COMP1	AVERAGED MERIDIONAL MASS FLUX.
		VERT	
PV1S		COMP1	MERIDIONAL MASS FLUX AT THE POLES.
		VERT	
PV2S		COMP1	MERIDIONAL MASS FLUX AT THE POLES.
		VERT	
PVDS		COMP2	NET MASS CONVERGENCE AT THE POLES.
		VERT	
PVH1S		COMP1	SPECIFIC HUMIDITY MASS FLUX AT THE POLES.
PVH2S		COMP1	SPECIFIC HUMIDITY MASS FLUX AT THE POLES.
PVT1S		COMP1	TEMPERATURE MASS FLUX AT THE POLES.
PVT2S		COMP1	TEMPERATURE MASS FLUX AT THE POLES.
PVU1S		COMP1	ZONAL WIND MASS FLUX AT THE POLES.
PVU2S		COMP1	ZONAL WIND MASS FLUX AT THE POLES.
PVV1S		COMP1	MERIDIONAL WIND MASS FLUX AT THE POLES.
PVV2S		COMP1	MERIDIONAL WIND MASS FLUX AT THE POLES.
PX1		COMP2	ZONALLY AVERAGED PRESSURE.
		VERT	
PX2		COMP2	ZONALLY AVERAGED PRESSURE.
		VERT	
PY1		COMP2	MERIDIONALLY AVERAGED PRESSURE.
		VERT	
PY2		COMP2	MERIDIONALLY AVERAGED PRESSURE.
		VERT	
P1		LINKHO	PRESSURE AT ONE OF THE STRATOSPHERIC LEVELS.
P2		LINKHO	PRESSURE AT ONE OF THE STRATOSPHERIC LEVELS.
Q		LINKHO	SPECIFIC HUMIDITY.
QALT	LCNTRL	GWSGCM	TRUE IF CURRENT TIME-STEP IS ANALYSIS STEP.
QBEG	LCNTRL	GWSGCM	TRUE IF CURRENT TIME-STEP IS INITIAL STEP.
QDAY	LCNTRL	GWSGCM	TRUE IF CURRENT TIME-STEP IS THE FIRST STEP.
		INITSD	
QEND	LCNTRL	GWSGCM	TRUE IF CURRENT TIME-STEP IS THE LAST STEP.
QFLUX		COMP1	LOCAL TEMPORARY VARIABLE.
QFLUX1		COMP1	LOCAL TEMPORARY VARIABLE.
QFLUX2		COMP1	LOCAL TEMPORARY VARIABLE.
QHOG	CNTRLP	CONSTA	LOGICAL FLAG TO INVOKE LONGWAVE RADIATION ROUTINE.
QOUT	LCNTRL	RADIO	
		COMP3	LOGICAL FLAG TO WRITE HISTORY FILE.
		CUMULO	
		GWSGCM	
		TWRITE	
QPHY	LCNTRL	GWSGCM	LOGICAL FLAG TO DO PHYSICS STEP.
QRSH	LCNTRL	CONHTR	LOGICAL FLAG TO WRITE RESTART TO HISTORY.
		GWSGCM	
		TWRITE	
QRSW	LCNTRL	GWSGCM	LOGICAL FLAG TO WRITE RESTART FILE.
		TWRITE	
QS	QANDQT	IOQ	MODEL ARRAY CONTAINING SURFACE AND DIAGNOSTIC FIELDS.
QSA	COMMON	CONHTR	WORK SPACE FOR HISTORY RECORD.
QSAT	FUNCTION	COMP3	STATEMENT FUNCTION USED TO COMPUTE SATURATION SPECIFIC HUMIDITY.
		CUMULO	
QSH	AMAM	CONHTR	
		GWSGCM	
QSHF	LCNTRL	GWSGCM	LOGICAL FLAG TO DO SHAPIRO FILTER.
QST1P	DCUMU	CUMULO	SATURATION SPECIFIC HUMIDITY AT PRIMED LEVEL 1.
QUA	COMMON	CONHTR	WORK SPACE FOR HISTORY RECORD.
QUH	AMAM	CONHTR	HISTORY RECORD - UPPER AIR FIELDS.
QUITE		PMEAN	SWITCH TO CONTROL ONE TIME COMPUTATION OF CONSTANTS.
Q1		LINKHO	SPECIFIC HUMIDITY AT THE 1 MB LEVEL.
Q2		LINKHO	SPECIFIC HUMIDITY AT THE 5 MB LEVEL.
Q2P	DCUMU	CUMULO	SPECIFIC HUMIDITY AT PRIMED LEVEL 2.
Q3P	DCUMU	CUMULO	SPECIFIC HUMIDITY AT PRIMED LEVEL 3.
Q4P	DCUMU	CUMULO	SPECIFIC HUMIDITY AT PRIMED LEVEL 4.
Q5P	DCUMU	CUMULO	SPECIFIC HUMIDITY AT PRIMED LEVEL 5.
R		LINKHO	TOTAL TRANSMISSION FUNCTION.
RA	COMMON	CONHTR	REAL ARRAY FOR HISTORY HEADER.

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RADE	RCNTRL	DEPEND	PLANETARY RADIUS.
RADIM3		DEPEND	LOCAL TEMPORARY VARIABLE.
RADLW	QANDQT	RADIO	LONGWAVE RADIATION DIAGNOSTIC.
RADLWG	QANDQT	RADIO	LONGWAVE RADIATION AT THE GROUND.
RADSW	QANDQT	INITSD	SHORTWAVE RADIATION DIAGNOSTIC.
		RADIO	
RADSWG	QANDQT	INITSD	SHORTWAVE RADIATION AT THE GROUND.
		RADIO	
RADTRM	RADCOM	COMP3	NET RADIATION AT THE GROUND.
		RADIO	
RBRAY		SOLAR1	ATMOSPHERIC ALBEDO DUE TO RAYLEIGH SCATTERING.
RBROZ		SOLAR1	RAYLEIGH SCATTERING FOR OZONE.
RC	RCNTRL	CONHTR	CONATINS REAL PARAMETERS ON HISTORY RECORD.
		IOQ	
RCLEAR	DSOLAR	SOLAR1	COMBINATION OF RAYLEIGH AND GROUND ALBEDO.
RCLLOUD	RADCOM	SOLAR1	CLOUD ALBEDO IN THE VISIBLE.
		CLOUDS	
RE	RADCOM	COMP3	UPWARD FLUX OF LONGWAVE RADIATION.
		LINKHO	
		RADIO	
RETA		CUMULO	INVERSE OF THE CLOUD ENTRAINMENT.
RF		SOLAR1	REFLECTED SOLAR RADIATION AT THE SURFACE.
RGAS	RCNTRL	COMP3	GAS CONSTANT FOR DRY AIR.
		CONSTA	
		DEPEND	
		GEOHT	
RH	RADCOM	COMP3	RELATIVE HUMIDITY.
		CUMULO	
RHOS	DCOMP3	COMP3	ATMOSPHERIC DENSITY AT THE SURFACE.
RHPWET		COMP3	RELATIVE HUMIDITY AT LEVEL NLAY PLUS GROUND WETNESS.
		COMP3	RELATIVE HUMIDITY AT THE SURFACE.
RHS		COMP3	BULK RICHARDSON NUMBER.
RICH		COMP3	RATIO OF PRESSURES FROM TWO ADJACENT LEVELS.
RKDN		COMP3	INVERSE OF RKDN.
RKUP		COMP3	LATITUDE IN RADIAN.
RLAT	RDPARM	DEPEND	
		DEPEND	
RLATD	RDPARM	INPUT	LATITUDE IN DEGREES.
		RADIO	
RMEAN	DSOLAR	SOLAR1	ALBEDO OF LOWER ATMOSPHERE AND GROUND FOR OZONE.
RN	RADCOM	CLOUDS	INDIVIDUAL CLOUD LAYER REFLECTIVITY.
RNK		CLOUDS	TOTAL CLOUD REFLECTANCE.
RNN		CLOUDS	REFLECTANCE FOR A CLOUD LAYER.
ROCP	RCNTRL	COMP3	RGAS / CP.
		DEPEND	
ROCPP1	RDPARM	DEPEND	ROCP + 1.
		GEOHT	
ROT		CONSTA	CURRENT ANGLE OF EARTH'S ROTATION.
RSDIST	RCNTRL	CONSTA	SQUARE OF DISTANCE FROM SUN.
		DAILY	
RSURF	RADCOM	LINKHO	SURFACE REFLECTANCE.
		RADIO	
		SOLAR1	
		CLOUDS	
RTOP	STAT FUNC	CLOUDS	CLOUD REFLECTIVITY FUNCTION.
S		LINKHO	RADIATION FLUX AT TOP OF A GIVEN MODEL LAYER.
SAREA		FMEAN	TOTAL GLOBAL AREA.
SB		CLOUDS	AVERAGED CLOUDY SKY ABSORPTANCE, SK, OVER ALL ANGLES.
SCOSZ	DSOLAR	SOLAR1	SOLAR CONSTANT MODIFIED BY SOLAR ZENITH ANGLE.
SD	QMSAVE	COMP1	NET MASS CONVERGENCE.
SDAY	RCNTRL	COMP3	NUMBER OF SECONDS PER DAY.
		CONSTA	
		DEPEND	
SD1		COMP1	LOCAL TEMPORARY VARIABLE.
SD2		VERT	LOCAL TEMPORARY VARIABLE.

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SEASON	RCNTRL	DAILY	FRACTION OF A YEAR ELAPSED SINCE SUMMER SOLSTICE.
SFPOL		SMSHAP	LOCAL TEMPORARY VARIABLE.
SG	RADCOM	RADIO	ABSORBED SOLAR RADIATION AT THE GROUND.
SGNP	RDPARM	SOLAR1	
		COMP1	SIGN COEFFICIENT USED IN POLE EQUATIONS.
		COMP2	
		DEPEND	
		POLINP	
		SMSHAP	
		VERT	
SH	QANDQT		SPECIFIC HUMIDITY. USED IN MOST SUBROUTINES.
SHG	RADCOM	COMP3	SPECIFIC HUMIDITY AT THE GROUND.
SHL	RADCOM	LINKHO	
		COMP3	SPECIFIC HUMIDITY USED IN PHYSICS.
		CUMULO	
		LINKHO	
		SOLAR1	
SHLE	RADCOM	COMP1	SPECIFIC HUMIDITY AT EDGE LEVELS.
		COMP3	
		CUMULO	
		RADIO	
SHLTOP	CNTRLP	SOLAR1	SPECIFIC HUMIDITY AT THE MODEL TOP.
SHM	QMSAVE	RESTQM	SAVED BASE FIELD SH.
		SAVEQM	
		TIMAVG	
SHP	QPOLES		SPECIFIC HUMIDITY AT THE POLES. USED IN MOST SUBROUTINES.
SHS	QANDQT	RADIO	SURFACE SPECIFIC HUMIDITY.
SHSAT	RADCOM	COMP3	SATURATION SPECIFIC HUMIDITY.
		CUMULO	
SHSATS		COMP3	SATURATION SPECIFIC HUMIDITY AT THE SURFACE.
SIG	RDPARM	COMP1	VERTICAL SIGMA COORDINATE.
		COMP3	
		CONSTA	
		DEPEND	
		GEOHT	
		SMSHAP	
SIGE	RCNTRL	COMP3	LAYER INTERFACE SIGMA VALUES.
		CONSTA	
		DEPEND	
		DEFAULT	
		GEOHT	
		VERT	
SIND	RCNTRL	DAILY	SINE OF SOLAR DECLINATION.
SINL	RDPARM	SOLAR1	
		COMP2	SINE OF LATITUDE.
		DEPEND	
		SOLAR1	
SINLON	RDPARM	COMP1	SINE OF LONGITUDE.
		COMP2	
		DEPEND	
		POLINP	
		SMSHAP	
		SOLAR1	
		VERT	
SINROT	CNTRLP	CONSTA	SINE OF EARTH'S ROTATION.
		SOLAR1	
SK		CLOUDS	ABSORPTANCE OF CLOUDY SKIES.
SLEXP	STAT FUNC	AVRX	SURFACE TO SEA LEVEL PRESSURE FUNCTION.
		PRODIAG	
		SMSHAP	
SMASS		PMEAN	TOTAL AREA-WEIGHTED PRESSURE.
SMTH	QANDQT	AVRX	HIGH LATITUDE FOURIER FILTER COEFFICIENTS.
		DEPEND	
		DEFAULT	
		INPUT	
SNODEC		CONSTA	LATITUDE OF SNOW LINE.
SNOW	RADCOM	COMP3	LOGICAL FLAG FOR SNOW.
		COMP35	
SNOWN	CNTRLP	COMP3	SNOW LINE IN NORTHERN HEMISPHERE.

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SNOWS	CNTRL	CONSTA	SNOW LINE IN SOUTHERN HEMISPHERE.
SN2FLG	LCNTRL	COMP3	
		CONSTA	
SOLS	RCNTRL	DEPEND	LOGICAL FLAG FOR SINE SIGMA PBL PROFILE.
SP	RADCOM	DEFAULT	
		DAILY	JULIAN DAY OF SUMMER SOLSTICE.
SPRESS		COMP3	REFERENCE PRESSURE.
SRNN		CUMULO	
		PMEAN	ZONAL SUM OF PRESSURES.
SRS	RADCOM	CLOUDS	REFLECTANCE BY ADDING TWO LAYERS (WITH
SRSN		CLOUDS	ILLUMINATION FROM ABOVE).
			REFLECTANCE BY ADDING TWO LAYERS.
SS		LINKHO	REFLECTANCE BY ADDING TWO LAYERS (WITH
SSB		LINKHO	ILLUMINATION FROM BELOW).
SSD		LINKHO	DERIVATIVE OF PLANCK'S FUNCTION.
SSS	RADCOM	COMP3	SMOOTHED DERIVATIVE OF PLANK'S FUNCTION.
		CUMULO	SMOOTHED DERIVATIVE OF PLANK'S FUNCTION.
SSSE	RADCOM	COMP3	DRY STATIC ENERGY.
		CUMULO	
SS1		LINKHO	DRY STATIC ENERGY AT EDGE LEVELS.
SS1P	DCUMU	CUMULO	DERIVATIVE OF PLANCK'S FUNCTION AT 1 MB
SS2P	DCUMU	CUMULO	LEVEL.
SS3P	DCUMU	CUMULO	DRY STATIC ENERGY AT PRIMED LEVEL 1.
SS4P	DCUMU	CUMULO	DRY STATIC ENERGY AT PRIMED LEVEL 2.
SS5P	DCUMU	CUMULO	DRY STATIC ENERGY AT PRIMED LEVEL 3.
STBO	CNTRL	COMP3	DRY STATIC ENERGY AT PRIMED LEVEL 4.
STERP1	CNTRL	COMP3	DRY STATIC ENERGY AT PRIMED LEVEL 5.
		CONSTA	STEFAN-BOLTZMAN CONSTANT.
		COMP3	SURFACE WIND INTERPOLATION COEFFICIENT.
STERP2	CNTRL	COMP3	
		CONSTA	SURFACE WIND INTERPOLATION COEFFICIENT.
STM		GWGCM	
STN	RADCOM	CLOUDS	CPU TIME USED FOR ONE TIME STEP.
STNN		CLOUDS	TRANSMISSION BY ADDING TWO LAYERS.
			TRANSMISSION BY ADDING TWO LAYERS (WITH
STSN		CLOUDS	ILLUMINATION FROM ABOVE).
			TRANSMISSION BY ADDING TWO LAYERS (WITH
SUM		LINKHO	ILLUMINATION FROM BELOW).
SUP		SMSHAP	SUMMATION OF S.
SURFL		LINKHO	
			FLUX AT THE TOP OF A MODEL LAYER DUE TO
SURFU		LINKHO	RADIATION FROM THE SURFACE LAYER.
			FLUX AT THE TOP OF A MODEL LAYER DUE TO
			RADIATION FROM THE LAYER BETWEEN 5 MB
			AND 1 MB.
SVP		SMSHAP	
SWALE	RADCOM	SOLAR1	AMOUNT OF WATER VAPOR ABOVE A GIVEN LEVEL.
		CLOUDS	
SWIL	RADCOM	SOLAR1	AMOUNT OF WATER VAPOR BETWEEN TWO ADJACENT
		CLOUDS	LEVELS.
SO	RADCOM	CONSTA	SOLAR CONSTANT.
		SOLAR1	
T	QANDQT		PROGNOSTIC TEMPERATURE FIELD, USED IN MOST
			SUBROUTINES.
TAPR		STRATM	CLIMATOLOGICAL STRATOSPHERIC TEMPERATURES
			FOR APRIL.
TAUAB		CLOUDS	OPTICAL THICKNESS OF CLOUDS DUE TO
			ABSORPTION.
TAUL	RADCOM	SOLAR1	OPTICAL THICKNESS DUE TO CLOUD PARTICLES
		CLOUDS	IN A GIVEN LAYER.
TAUP		CLOUDS	LOCAL TEMPORARY VARIABLE.
TAUSC		CLOUDS	OPTICAL THICKNESS OF CLOUDS DUE TO
			SCATTERING.
TCOND	RADCOM	SOLAR1	OPTICAL THICKNESS OF SUPER-SATURATION
			CLOUDS.
TDAY		STRATM	TEMPERATURE AT A STRATOSPHERIC LEVEL.
TDML		COMP3	TEMPERATURE DIFFERENCE IN MIXED LAYER.
TDN	DCOMP3	COMP3	LOCAL TEMPORARY VARIABLE.
TEM		COMP3	CHANGE IN CONDUCTION OF HEAT THROUGH SEA
			ICE WITH RESPECT TO GROUND TEMPERATURE.

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TEMP		COMP3 CUMULO QSAT	LOCAL TEMPORARY VARIABLE.
TEMPU		COMP3	LOCAL TEMPORARY VARIABLE.
TEMPV		COMP3	LOCAL TEMPORARY VARIABLE.
TEMP1	DSOLAR	SOLAR1	LOCAL TEMPORARY VARIABLE.
TEMP1D		EXPBYK	LOCAL TEMPORARY VARIABLE.
TERM		GEOHT	LOCAL TEMPORARY VARIABLE.
TERMT	QMSAVE	LINKHO	
TERMW	QMSAVE	COMP2	TERM PASSED FROM GEOHT TO COMP2.
TERM1		GEOHT	
TERM2		COMP2	TERM PASSED FROM GEOHT TO COMP2.
TERM3		GEOHT	
TERM4		LINKHO	LOCAL TEMPORARY VARIABLE.
TFK		COMP3	SENSIBLE HEAT FLUX.
TG	RADCOM	LINKHO	LOCAL TEMPORARY VARIABLE.
		COMP3	LATENT HEAT FLUX.
		COMP3	HEATING DUE TO CONDUCTION.
		CLOUDS	LOCAL TEMPORARY VARIABLE.
		COMP3	GROUND TEMPERATURE.
		COMP35	
TGR		LINKHO	
TGSQ		COMP35	GROUND TEMPERATURE.
TH	RADCOM	COMP3	GROUND TEMPERATURE SQUARED.
		COMP3	POTENTIAL TEMPERATURE.
		LINKHO	
THETA	COMMON	GEOHT	
THG		COMP3	MEAN POTENTIAL TEMPERATURE.
THSTD	RDPARM	COMP3	LOCAL TEMPORARY VARIABLE.
THSTD2	RDPARM	DEPEND	
		GEOHT	
		DEPEND	
		GEOHT	
THT9		COMP3	POTENTIAL TEMPERATURE WITH SURFACE PRESSURE AS A REFERENCE.
TICE	CNTRLP	COMP3	TEMPERATURE AT WHICH ICE MELTS.
		COMP35	
		CONSTA	
TINF		LINKHO	TOTAL TRANSMISSION FUNCTION.
TI1		LINKHO	TRANSMISSION FUNCTION OF OZONE.
		O3INT	
TI2		LINKHO	TRANSMISSION FUNCTION OF OZONE.
		O3INT	
TJAN		STRATM	CLIMATOLOGICAL STRATOSPHERIC TEMPERATURES FOR JANUARY.
TJUL		STRATM	CLIMATOLOGICAL STRATOSPHERIC TEMPERATURES FOR JULY.
TL	RADCOM	COMP3	TEMPERATURE USED IN PHYSICS.
		CUMULO	
		LINKHO	
		SOLAR1	
TLE	RADCOM	COMP3	TEMPERATURE AT EDGE LEVELS.
		LINKHO	
TLOWL	RADCOM	SOLAR1	OPTICAL THICKNESS OF LOW-LEVEL CLOUDS.
TLTOP	CNTRLP	SOLAR1	TEMPERATURE AT ATMOSPHERIC MODEL TOP.
TM	QMSAVE	RESTQM	
		SAVEQM	
		TIMAVG	
TMAX	QANDQT	COMP3	MAXIMUM DAILY SURFACE TEMPERATURE.
		INITSD	
TMIDL	RADCOM	SOLAR1	OPTICAL THICKNESS OF MIDDLE LEVEL CLOUDS.
TMIN	QANDQT	COMP3	MINIMUM DAILY SURFACE TEMPERATURE.
		INITSD	
TN	RADCOM	CLOUDS	INDIVIDUAL CLOUD LAYER TRANSMISSIVITY.
TNK		CLOUDS	TOTAL CLOUD TRANSMITTANCE.
TNN		CLOUDS	TRANSMITTANCE OF A CLOUD LAYER.
TOCT		STRATM	CLIMATOLOGICAL STRATOSPHERIC TEMPERATURES FOR OCTOBER.
TOPABS	RADCOM	SOLAR1	ABSORPTION ABOVE LEVEL 1.
TOPOG1	MNTHLY	CLOUDS	
		DAILY	

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TOPOG2	MNTHLY	GWSGCM	
TOTABS	DSOLAR	DAILY	
TOTOCM		SOLAR1	TOTAL ABSORPTION OF SOLAR RADIATION.
		OZONE2	TIME INTERPOLATED TOTAL VERTICAL AMOUNT
			OF OZONE.
TOTOZ	RADCOM	OZONE2	TOTAL VERTICAL OZONE AMOUNTS.
TOTOZI		OZONE2	LIMIT USED IN VERTICAL INTERPOLATION OF
			OZONE.
TOTOZJ		OZONE2	SAME AS TOTOZI.
TO1		LINKHO	TRANSMISSION FUNCTION OF OZONE.
		O3INT	
TO2		LINKHO	TRANSMISSION FUNCTION OF OZONE.
		O3INT	
TO3		LINKHO	TRANSMISSION FUNCTION OF OZONE.
		O3INT	
TP	QPOLES		TEMPERATURE AT THE POLES, USED IN MOST
			SUBROUTINES.
TPENE	RADCOM	SOLAR1	OPTICAL THICKNESS OF PENETRATING CLOUDS.
TRAD		LINKHO	TEMPERATURE AT A GIVEN MODEL RADIATION
			LEVEL.
TRAD1		LINKHO	TEMPERATURE AT THE 1 MB LEVEL.
TRANS		SOLAR1	
TRB		LINKHO	
TRD		LINKHO	
TRD3		LINKHO	TRANSMISSION FUNCTION OF OZONE.
		O3INT	
TS	QANDQT	COMP3	TEMPERATURE OF THE AIR ABOVE THE SURFACE.
TS		LINKHO	TEMPERATURE AT THE TOP OF THE SURFACE
			LAYER.
TSTAR		QSAT	LOCAL TEMPORARY VARIABLE.
TSTD	RCNTRL	DEPEND	STANDARD TEMPERATURE FOR NORMALIZATION.
		DEFAULT	
TSURF		SMSHAP	
TT		LINKHO	SCALED TEMPERATURE AT A MODEL RADIATION
			LEVEL.
TTM		GWSGCM	
TTOP	STAT FUNC	CLOUDS	CLOUD TRANSMITTANCE FUNCTION.
TTT		LINKHO	TT = TT.
TUP	DCOMP3	COMP3	LOCAL TEMPORARY VARIABLE.
T1		LINKHO	TEMPERATURE AT THE 1 MB LEVEL.
		STRATM	
T2		LINKHO	TEMPERATURE AT THE 5 MB LEVEL.
		STRATM	
U	QANDQT		ZONAL WIND COMPONENT, USED IN MOST
			SUBROUTINES.
UDN	DCOMP3	COMP3	LOCAL TEMPORARY VARIABLE.
UM	QMSAVE	RESTQM	
		SAVEQM	
		TIMAVG	
UP	QPOLES		ZONAL WIND COMPONENT AT THE POLES, USED IN
			MOST SUBROUTINES.
US	DCOMP3	COMP3	ZONAL SURFACE WIND COMPONENT.
UUP	DCOMP3	COMP3	LOCAL TEMPORARY VARIABLE.
V	QANDQT		MERIDIONAL WIND COMPONENT, USED IN MOST
			SUBROUTINES.
VAR		LINKHO	INTEGRAL QUANTITY USED IN OPTICAL DEPTH
			CALCULATION.
VDN	DCOMP3	COMP3	LOCAL TEMPORARY VARIABLE.
VER	CCNTRL	INPUT	MODEL VERSION IDENTIFICATION.
VERSAVE		INPUT	EQUAL TO VER.
VM	QMSAVE	RESTQM	
		SAVEQM	
		TIMAVG	
VP	QPOLES		MERIDIONAL WIND COMPONENT AT THE POLES, USED
			IN MOST SUBROUTINES.
VS	DCOMP3	COMP3	MERIDIONAL SURFACE WIND COMPONENT.
VUP	DCOMP3	COMP3	LOCAL TEMPORARY VARIABLE.
W	DSOLAR	SOLAR1	SCALED WATER VAPOR AMOUNT IN A SLANT PATH.
		CLOUDS	
WAVAMP		PRDIAG	WAVE AMPLITUDE.
WAVLEN		PRDIAG	WAVE LENGTH.

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WAVPCT		PRDIAG	
WAVPER		PRDIAG	
WET	RADCOM	COMP3	GROUND WETNESS.
		COMP35	
WK		CLOUDS	
WMAG	DCOMP3	COMP3	WIND SPEED AT GROUND.
WMAGC	DCOMP3	COMP3	WIND SPEED AT GROUND CUBED.
WMAGS	DCOMP3	COMP3	WIND SPEED AT GROUND SQUARED.
WORK1	COMMON	GWSGCM	
WSAVE	RDPARM	AVRX	WORK SPACE.
		DEPEND	
WTRINF		PRDIAG	
WW	DSOLAR	LINKHO	TOTAL TRANSMISSION FUNCTION.
		SOLAR1	SCALED MOISTURE AMOUNT FOR REFLECTED RADIATION.
X		LINKHO	DATA USED IN PLANCK'S FUNCTION.
		O3INT	
XD		EXPBYK	LOCAL TEMPORARY VARIABLE.
XDAY	CNTRLP	CONSTA	SOLAR DAY OF THE YEAR.
		OZONE2	
XK	RADCOM	SOLAR1	ABSORPTION COEFFICIENT OF CLOUDS.
XXX		CLOUDS	
XLABEL	CNTRLP	CLOUDS	EXPERIMENT DESCRIPTION LABEL.
XLAT		DEFAULT	LATITUDE.
		OZONE2	
		RADIO	
XORDS	CORDER	SOLAR1	CHARACTERS FOR SURFACE VARIABLES.
		CONHTR	
		DEFAULT	
XORDU	CORDER	IOQ	CHARACTERS FOR UPPER AIR VARIABLES.
		CONHTR	
		DEFAULT	
		IOQ	
XSA	COMMON	CONHTR	
XUA	COMMON	CONHTR	
XX		LINKHO	LOCAL TEMPORARY VARIABLE.
		SOLAR1	
XY		LINKHO	LOCAL TEMPORARY VARIABLE.
YY		LINKHO	LOCAL TEMPORARY VARIABLE.
Z	DCOMP3	COMP3	TOPOGRAPHICAL HEIGHT.
ZLN		COMP3	THICKNESS OF PBL.
ZLNCO	CNTRLP	COMP3	PBL THICKNESS COEFFICIENT.
		CONSTA	

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CHAPTER III

CODE LISTING

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PROGRAM GWSGCM (INPUT,OUTPUT,
UNIT3=OUTPUT,      UNIT5=XXXXNL,   UNIT6=OUTPUT,      SGWSGCM 2
UNIT8=XXXXHTS,     UNIT11=TEMPNL,  UNIT12=XXXXRS1,    SGWSGCM 3
UNIT14=XXXXXRS2,  UNIT41=TOPOG,   UNIT42=GRWET,      SGWSGCM 4
UNIT43=ALBEDO,    UNIT55=WUDATA,   UNIT56=HRDATA,     SGWSGCM 5
UNIT15=RSRPROC,   SGWSGCM 6
UNIT60=EXPNUM)    SGWSGCM 7
                  SGWSGCM 8

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M / A - C O M S I G M A D A T A I N C . N A S A - G S F C

EXTERNAL REFERENCES AND COMMON USAGE

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[illegible]

C		0 - INITIAL CONDITIONS	SCNTCOM125
C		1 - MONTHLY UPDATE	SCNTCOM126
C		2 - TIME INTERPOLATION	SCNTCOM127
C	IC(14) KLIW	GROUND WETNESS CLIMATOLOGY FLAG:	SCNTCOM128
C		0 - INITIAL CONDITIONS	SCNTCOM129
C		1 - MONTHLY UPDATE	SCNTCOM130
C		2 - TIME INTERPOLATION	SCNTCOM131
C	IC(15) KLISS	SEA SURFACE TEMPERATURE CLIMATOLOGY FLAG:	SCNTCOM132
C		0 - INITIAL CONDITIONS	SCNTCOM133
C		1 - MONTHLY UPDATE	SCNTCOM134
C		2 - TIME INTERPOLATION	SCNTCOM135
C	IC(16) KS	NUMBER OF SURFACE FIELDS	SCNTCOM136
C	IC(17) KU	NUMBER OF UPPER-AIR FIELDS	SCNTCOM137
C	IC(18) LOGBR	TYPE OF RECORD	SCNTCOM138
C		0 - RESTART (POST-ANALYSIS) VBRSTR	SCNTCOM139
C		-1 - RESTART (PRE-ANALYSIS) VBRSTR	SCNTCOM140
C		2 - HISTORY (POST-ANALYSIS) VBSIG	SCNTCOM141
C		1 - HISTORY (PRE-ANALYSIS) VBSIG	SCNTCOM142
C		4 - VBMAND (POST-ANALYSIS) VBMAND	SCNTCOM143
C		3 - VBMAND (PRE-ANALYSIS) VBMAND	SCNTCOM144
C	IC(19) MATIN	NUMBER OF MATSUNO STEPS TO INTEGRATE BEFORE	SCNTCOM145
C		ENTERING REGULAR CYCLE	SCNTCOM146
C	IC(20) MATSNX	NEXT TIME-STEP SCHEME (0=LEAPFROG, 1=MATSUNO)	SCNTCOM147
C	IC(21) MATSUN	CURRENT TIME-STEP SCHEME (0=LEAPFROG, 1=MATSUNO)	SCNTCOM148
C	IC(22)-		SCNTCOM149
C	IC(33) MLF	TIME-STEP FLAGS FOR A COMPLETE SEQUENCE	SCNTCOM150
C		LENGTH OF SEQUENCE GIVEN BY NSEQ < 13	SCNTCOM151
C		(0=LEAPFROG, 1=MATSUNO)	SCNTCOM152
C	IC(34) MROD	MAXIMUM ALLOWABLE NUMBER OF LOGICAL RECORDS TO	SCNTCOM153
C		WRITE TO EXXXHTS	SCNTCOM154
C	IC(35) NKRS	FLAG FOR RESTART RECORD WRITE TO HISTORY	SCNTCOM155
C	IC(36) MSM	NUMBER OF BANDS TO KEEP IN STORAGE AT ONE TIME	SCNTCOM156
C	IC(37) NB	INDEX OF CURRENT TIME-STEP FIELDS	SCNTCOM157
C	IC(38) ND	INDEX OF PREVIOUS TIME-STEP FIELDS	SCNTCOM158
C	IC(39) NDALT	TIME INCREMENT TO INVOKE ANALYSIS IN HHMMSS FORM	SCNTCOM159
C	IC(40) NDAY	CURRENT JULIAN DAY	SCNTCOM160
C	IC(41) NDOUT	TIME INCREMENT TO WRITE HISTORY RECORDS IN	SCNTCOM161
C		HHMMSS FORM	SCNTCOM162
C	IC(42) NDPHY	TIME INCREMENT TO INVOKE PHYSICS IN HHMMSS FORM	SCNTCOM163
C	IC(43) NDSHP	TIME INCREMENT TO INVOKE SHAPIRO FILTER IN	SCNTCOM164
C		HHMMSS FORM	SCNTCOM165
C	IC(44) NDT	TIME-STEP IN SECONDS	SCNTCOM166
C	IC(45) NHMS	CURRENT MODEL TIME IN HHMMSS FORM	SCNTCOM167
C	IC(46) NHMSE	ENDING TIME IN HHMMSS FORM	SCNTCOM168
C	IC(47) NHMSO	BEGINNING TIME IN HHMMSS FORM	SCNTCOM169
C	IC(48) NLAY	NUMBER OF VERTICAL LAYERS IN GRID	SCNTCOM170
C	IC(49) NLAYM1	NLAY - 1	SCNTCOM171
C	IC(50) NLAYP1	NLAY + 1	SCNTCOM172
C	IC(51) NSDAY	CURRENT TIME OF MODEL DAY IN SECONDS	SCNTCOM173
C	IC(52) NSEQ	NUMBER OF STEPS IN A COMPLETE TIME-STEP SEQUENCE	SCNTCOM174
C	IC(53) NSSHF	NUMBER OF TIME-STEPS BETWEEN CALLS TO THE	SCNTCOM175
C		SHAPIRO FILTER	SCNTCOM176
C	IC(54) NSTEP	TIME STEPS SINCE INITIAL START	SCNTCOM177
C	IC(55)	SPARE	SCNTCOM178
C	IC(56) NYMD	CURRENT MODEL DATE IN YYMMDD FORM	SCNTCOM179
C	IC(57) NYMDE	ENDING DATE IN YYMMDD FORM	SCNTCOM180
C	IC(58) NYMDO	BEGINNING DATE IN YYMMDD FORM	SCNTCOM181
C	IC(59) NZINIT	GRAVITY WAVE INITIALIZATION FLAG:	SCNTCOM182
C		0 - NO INITIALIZATION WAS DONE	SCNTCOM183
C	IC(60) NMLEV	NUMBER OF MANDATORY PRESSURE LEVELS	SCNTCOM184
C	IC(61) NDHOG	INCREMENT BETWEEN CALLS TO LONG WAVE RADIATION	SCNTCOM185
C		IN HHMMSS FORM	SCNTCOM186
C	IC(62)-		SCNTCOM187
C	IC(200)	SPARES	SCNTCOM188
C			SCNTCOM189
C		LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTCOM190
C	LC(1) LCO	T IF NEXT RECORD IS VBRSTR	SCNTCOM191
C	LC(2) QALT	T IF CURRENT TIME-STEP IS ANALYSIS STEP	SCNTCOM192
C	LC(3) QBEG	T IF CURRENT STEP IS THE INITIAL STEP	SCNTCOM193
C	LC(4) QDAY	T IF THE CURRENT STEP IS THE FIRST STEP OF A DAY	SCNTCOM194
C	LC(5) QEND	T IF THE CURRENT STEP IS THE LAST STEP	SCNTCOM195

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LC(6)	QOUT	T IF THE CURRENT STEP IS WRITTEN TO THE HISTORY FILE	SCNTCOM196
LC(7)	QPHY	T IF THE CURRENT STEP IS A PHYSICS STEP	SCNTCOM197
LC(8)	QSHF	T IF THE CURRENT STEP IS A SHAPIRO FILTER STEP	SCNTCOM198
LC(9)	SN2FLG	T IF THE SIN**2 PBL SIGMA PROFILE IS USED	SCNTCOM199
LC(10)	QR5W	T IF CURRENT STEP TO BE WRITTEN TO RESTART	SCNTCOM200
LC(11)	QRSH	T IF CURRENT STEP RESTART TO BE WRITTEN TO HIST	SCNTCOM201
LC(12)			SCNTCOM202
LC(200)			SCNTCOM203
	SPARES		SCNTCOM204
			SCNTCOM205
	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD		SCNTCOM206
RC(1)	RCO	SPARE	SCNTCOM207
RC(2)	APHEL	DAY OF THE YEAR OF THE APOGEE OF THE EARTH'S ORBIT	SCNTCOM208
RC(3)	BETA	MOIST ADIABATIC LAPSE RATE	SCNTCOM209
RC(4)	COSD	COSINE OF SOLAR DECLINATION	SCNTCOM210
RC(5)	CP	SPECIFIC HEAT OF AIR	SCNTCOM211
RC(6)	DAYSPLY	NUMBER OF DAYS IN A YEAR	SCNTCOM212
RC(7)	DFC	CURRENT DECLINATION OF THE EARTH	SCNTCOM213
RC(8)	DFCMAX	MAXIMUM DECLINATION OF THGE EARTH	SCNTCOM214
RC(9)	DIST	CURRENT DISTANCE OF THE EARTH WITH RESPECT TO THE APOGEE	SCNTCOM215
RC(10)	DLAT	NORTH-SOUTH GRID DISTANCE IN RADIANS	SCNTCOM216
RC(11)	DLON	EAST-WEST GRID DISTANCE IN RADIANS	SCNTCOM217
RC(12)	DT	MODEL TIME-STEP IN SECONDS	SCNTCOM218
RC(13)	ECCN	ECCENTRICITY OF PLANETARY ORBIT	SCNTCOM219
RC(14)	GNU1	CENTER TERM FOR TIME AVERAGING USED WITH LEAPFROG SCHEME	SCNTCOM220
RC(15)	GNU2	OUTER TERM FOR TIME AVERAGING USED WITH LEAPFROG SCHEME	SCNTCOM221
RC(16)	GRAV	GRAVITATIONAL ACCELERATION	SCNTCOM222
RC(17)	OMEGA2	TWICE THE ANGULAR VELOCITY OF THE PLANET	SCNTCOM223
RC(18)	PI	CONSTANT = ACOS(-1.0)	SCNTCOM224
RC(19)	PI180	CONVERSION FACTOR PI / 180.0	SCNTCOM225
RC(20)	PI2	CONSTANT = 2.0 * PI	SCNTCOM226
RC(21)	PSTD	REFERENCE PRESSURE FOR NORMALIZATION	SCNTCOM227
RC(22)	PIMEAN	GLOBAL MEAN REFERENCE PRESSURE	SCNTCOM228
RC(23)	PSMAX	MAXIMUM ALLOWABLE REFERENCE PRESSURE	SCNTCOM229
RC(24)	PSMIN	MINIMUM ALLOWABLE REFERENCE PRESSURE	SCNTCOM230
RC(25)	PTOP	PRESSURE AT TOP OF MODEL ATMOSPHERE	SCNTCOM231
RC(26)	RADE	PLANETARY RADIUS	SCNTCOM232
RC(27)	RGAS	GAS CONSTANT FOR DRY AIR	SCNTCOM233
RC(28)	ROCP	GAS CONSTANT DIVIDED BY SPECIFIC HEAT OF AIR	SCNTCOM234
RC(29)	RSDIST	SQUARE OF DISTANCE FROM SUN	SCNTCOM235
RC(30)	SDAY	NUMBER OF SECONDS PER DAY	SCNTCOM236
RC(31)	SEASON	CURRENT POSITION OF THE EARTH WITH RESPECT TO SUMMER SOLSTICE	SCNTCOM237
RC(32)			SCNTCOM238
RC(56)	SIGE	LAYER INTERFACE SIGMA VALUES	SCNTCOM239
RC(57)	SIND	SINE OF SOLAR DECLINATION	SCNTCOM240
RC(58)	SOLS	DAY OF THE YEAR OF MAXIMAL DECLINATION	SCNTCOM241
RC(59)	TBAR	STANDARD TEMPERATURE FOR NORMALIZATION	SCNTCOM242
RC(60)			SCNTCOM243
RC(84)	DSIG	THICKNESS OF VERTICAL LAYERS	SCNTCOM244
RC(85)			SCNTCOM245
RC(109)	SIG	MID LAYER SIGMA VALUES	SCNTCOM246
RC(110)			SCNTCOM247
RC(134)	PLEVS	ARRAY OF NMLEV MANDATORY PRESSURE LEVELS	SCNTCOM248
RC(135)			SCNTCOM249
RC(200)			SCNTCOM250
	SPARES		SCNTCOM251
			SCNTCOM252
	CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD		SCNTCOM253
	=====		SCNTCOM254
00002	COMMON /CCNTRL/	CCO	SCNTCOM255
00003	COMMON /CCNTRL/	ADATE	SCNTCOM256
00004	COMMON /CCNTRL/	ATIME	SCNTCOM257
00005	COMMON /CCNTRL/	JIC	SCNTRL 2
00006	COMMON /CCNTRL/	JOB	SCNTRL 3
00007	COMMON /CCNTRL/	CCSP06	SCNTRL 4
			SCNTRL 5
			SCNTRL 6
			SCNTRL 7
			SCNTRL 8
			SCNTRL 9
			SCNTRL 10

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00008      COMMON /CCNTRL/ CCSP07
00009      COMMON /CCNTRL/ CCSP08
00010      COMMON /CCNTRL/ VER
00011      COMMON /CCNTRL/ XLABEL (10)
00012      COMMON /CCNTRL/ CQS (30)
00013      COMMON /CCNTRL/ CQU (10)

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C

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00014      EQUIVALENCE (CC0,CC(1))
00015      CHARACTER*8    CC0, CC(200)
00016      CHARACTER*8    ADATE
00017      CHARACTER*8    ATIME
00018      CHARACTER*8    JIC
00019      CHARACTER*8    JOB
00020      CHARACTER*8    CCSP06
00021      CHARACTER*8    CCSP07
00022      CHARACTER*8    CCSP08
00023      CHARACTER*8    VER
00024      CHARACTER*8    XLABEL

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C

C

INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD

C

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00025      COMMON /ICNTRL/ IC0
00026      COMMON /ICNTRL/ IM
00027      COMMON /ICNTRL/ IMD2
00028      COMMON /ICNTRL/ IMD2P1
00029      COMMON /ICNTRL/ NDRSW
00030      COMMON /ICNTRL/ JM
00031      COMMON /ICNTRL/ JMD2
00032      COMMON /ICNTRL/ JMT2
00033      COMMON /ICNTRL/ JNP
00034      COMMON /ICNTRL/ JO4
00035      COMMON /ICNTRL/ JO8
00036      COMMON /ICNTRL/ JSP
00037      COMMON /ICNTRL/ KLIALB
00038      COMMON /ICNTRL/ KLIW
00039      COMMON /ICNTRL/ KLISST
00040      COMMON /ICNTRL/ KS
00041      COMMON /ICNTRL/ KU
00042      COMMON /ICNTRL/ LOG8R
00043      COMMON /ICNTRL/ MATIN
00044      COMMON /ICNTRL/ MATSNX
00045      COMMON /ICNTRL/ MATSUN
00046      COMMON /ICNTRL/ MLF (12)
00047      COMMON /ICNTRL/ MR0D
00048      COMMON /ICNTRL/ NKRSH
00049      COMMON /ICNTRL/ MSM
00050      COMMON /ICNTRL/ NB
00051      COMMON /ICNTRL/ ND
00052      COMMON /ICNTRL/ NDALT
00053      COMMON /ICNTRL/ NDAY
00054      COMMON /ICNTRL/ NDOUT
00055      COMMON /ICNTRL/ NDPHY
00056      COMMON /ICNTRL/ NDSHF
00057      COMMON /ICNTRL/ NDT
00058      COMMON /ICNTRL/ NHMS
00059      COMMON /ICNTRL/ NHMSE
00060      COMMON /ICNTRL/ NHMS0
00061      COMMON /ICNTRL/ NLAY
00062      COMMON /ICNTRL/ NLAYM1
00063      COMMON /ICNTRL/ NLAYP1
00064      COMMON /ICNTRL/ NSDAY
00065      COMMON /ICNTRL/ NSEQ
00066      COMMON /ICNTRL/ ICSP53
00067      COMMON /ICNTRL/ NSTEP
00068      COMMON /ICNTRL/ ICSP55
00069      COMMON /ICNTRL/ NYMD
00070      COMMON /ICNTRL/ NYMDE
00071      COMMON /ICNTRL/ NYMD0
00072      COMMON /ICNTRL/ NZINIT
00073      COMMON /ICNTRL/ NMLEV
00074      COMMON /ICNTRL/ NDHOG

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SCNTRL 11
SCNTRL 12
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SCNTRL 81

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00075	COMMON /ICNTRL/	IQS (30)	SCNTRL	82
00076	COMMON /ICNTRL/	IQU (10)	SCNTRL	83
	C		SCNTRL	84
00077	EQUIVALENCE	(ITMIN .IQS(1))	SCNTRL	85
00078	EQUIVALENCE	(ITMAX .IQS(2))	SCNTRL	86
00079	EQUIVALENCE	(IPREACC .IQS(3))	SCNTRL	87
00080	EQUIVALENCE	(IPRECON .IQS(4))	SCNTRL	88
00081	EQUIVALENCE	(IHFLUX .IQS(5))	SCNTRL	89
00082	EQUIVALENCE	(IEFLUX .IQS(6))	SCNTRL	90
00083	EQUIVALENCE	(IFUSION .IQS(7))	SCNTRL	91
00084	EQUIVALENCE	(IRADSWG .IQS(8))	SCNTRL	92
00085	EQUIVALENCE	(IRADLWG .IQS(9))	SCNTRL	93
00086	EQUIVALENCE	(ICLOUD .IQS(10))	SCNTRL	94
	C		SCNTRL	95
00087	EQUIVALENCE	(IOMEGA .IQU(1))	SCNTRL	96
00088	EQUIVALENCE	(IDIABAT .IQU(2))	SCNTRL	97
00089	EQUIVALENCE	(IRADSW .IQU(3))	SCNTRL	98
	C		SCNTRL	99
00090	EQUIVALENCE	(IC0,IC(1))	SCNTRL	100
00091	INTEGER	IC0, IC(200)	SCNTRL	101
	C		SCNTRL	102
	C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL	103
	C	=====	SCNTRL	104
00092	COMMON /LCNTRL/	LCO	SCNTRL	105
00093	COMMON /LCNTRL/	QALT	SCNTRL	106
00094	COMMON /LCNTRL/	QBEG	SCNTRL	107
00095	COMMON /LCNTRL/	QDAY	SCNTRL	108
00096	COMMON /LCNTRL/	QEND	SCNTRL	109
00097	COMMON /LCNTRL/	QOUT	SCNTRL	110
00098	COMMON /LCNTRL/	QPHY	SCNTRL	111
00099	COMMON /LCNTRL/	QSHF	SCNTRL	112
00100	COMMON /LCNTRL/	SN2FLG	SCNTRL	113
00101	COMMON /LCNTRL/	QRSW	SCNTRL	114
00102	COMMON /LCNTRL/	QRSH	SCNTRL	115
00103	COMMON /LCNTRL/	LQS(30)	SCNTRL	116
00104	COMMON /LCNTRL/	LQU(10)	SCNTRL	117
	C		SCNTRL	118
00105	EQUIVALENCE	(LTMIN .LQS(1))	SCNTRL	119
00106	EQUIVALENCE	(LTMAX .LQS(2))	SCNTRL	120
00107	EQUIVALENCE	(LPREACC .LQS(3))	SCNTRL	121
00108	EQUIVALENCE	(LPRECON .LQS(4))	SCNTRL	122
00109	EQUIVALENCE	(LHFLUX .LQS(5))	SCNTRL	123
00110	EQUIVALENCE	(LEFLUX .LQS(6))	SCNTRL	124
00111	EQUIVALENCE	(LFUSION .LQS(7))	SCNTRL	125
00112	EQUIVALENCE	(LRADSWG .LQS(8))	SCNTRL	126
00113	EQUIVALENCE	(LRADLWG .LQS(9))	SCNTRL	127
00114	EQUIVALENCE	(LICLOUD .LQS(10))	SCNTRL	128
	C		SCNTRL	129
00115	EQUIVALENCE	(LOMEGA .LQU(1))	SCNTRL	130
00116	EQUIVALENCE	(LDIABAT .LQU(2))	SCNTRL	131
00117	EQUIVALENCE	(LRADSW .LQU(3))	SCNTRL	132
	C		SCNTRL	133
00118	LOGICAL	QALT	SCNTRL	134
00119	LOGICAL	QBEG	SCNTRL	135
00120	LOGICAL	QDAY	SCNTRL	136
00121	LOGICAL	QEND	SCNTRL	137
00122	LOGICAL	QOUT	SCNTRL	138
00123	LOGICAL	QPHY	SCNTRL	139
00124	LOGICAL	QSHF	SCNTRL	140
00125	LOGICAL	SN2FLG	SCNTRL	141
00126	LOGICAL	QRSW	SCNTRL	142
00127	LOGICAL	QRSH	SCNTRL	143
	C		SCNTRL	144
00128	LOGICAL	LQS	SCNTRL	145
00129	LOGICAL	LQU	SCNTRL	146
00130	LOGICAL	LTMIN	SCNTRL	147
00131	LOGICAL	LTMAX	SCNTRL	148
00132	LOGICAL	LPREACC	SCNTRL	149
00133	LOGICAL	LPRECON	SCNTRL	150
00134	LOGICAL	LHFLUX	SCNTRL	151
00135	LOGICAL	LEFLUX	SCNTRL	152

00136		LOGICAL	LFUSION	SCNTRL 153
00137		LOGICAL	LRADSWG	SCNTRL 154
00138		LOGICAL	LRADLWG	SCNTRL 155
00139		LOGICAL	LICLOUD	SCNTRL 156
	C			SCNTRL 157
00140		LOGICAL	LOMEGA	SCNTRL 158
00141		LOGICAL	LDIABAT	SCNTRL 159
00142		LOGICAL	LRADSW	SCNTRL 160
	C			SCNTRL 161
00143		EQUIVALENCE	(LC0,LC(1))	SCNTRL 162
00144		LOGICAL	LC0, LC(200)	SCNTRL 163
	C			SCNTRL 164
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD		SCNTRL 165
	C	=====		SCNTRL 166
00145		COMMON /RCNTRL/	RC0	SCNTRL 167
00146		COMMON /RCNTRL/	APHEL	SCNTRL 168
00147		COMMON /RCNTRL/	BETA	SCNTRL 169
00148		COMMON /RCNTRL/	QOSD	SCNTRL 170
00149		COMMON /RCNTRL/	CP	SCNTRL 171
00150		COMMON /RCNTRL/	DAYSPLY	SCNTRL 172
00151		COMMON /RCNTRL/	DEC	SCNTRL 173
00152		COMMON /RCNTRL/	DECMAX	SCNTRL 174
00153		COMMON /RCNTRL/	DIST	SCNTRL 175
00154		COMMON /RCNTRL/	DLAT	SCNTRL 176
00155		COMMON /RCNTRL/	DLOD	SCNTRL 177
00156		COMMON /RCNTRL/	DT	SCNTRL 178
00157		COMMON /RCNTRL/	ECCM	SCNTRL 179
00158		COMMON /RCNTRL/	GNU1	SCNTRL 180
00159		COMMON /RCNTRL/	GNU2	SCNTRL 181
00160		COMMON /RCNTRL/	GRAV	SCNTRL 182
00161		COMMON /RCNTRL/	OMEGA2	SCNTRL 183
00162		COMMON /RCNTRL/	PI	SCNTRL 184
00163		COMMON /RCNTRL/	PI180	SCNTRL 185
00164		COMMON /RCNTRL/	PI2	SCNTRL 186
00165		COMMON /RCNTRL/	PSTD	SCNTRL 187
00166		COMMON /RCNTRL/	PIMEAN	SCNTRL 188
00167		COMMON /RCNTRL/	PSMAX	SCNTRL 189
00168		COMMON /RCNTRL/	PSMIN	SCNTRL 190
00169		COMMON /RCNTRL/	PTOP	SCNTRL 191
00170		COMMON /RCNTRL/	RADE	SCNTRL 192
00171		COMMON /RCNTRL/	RGAS	SCNTRL 193
00172		COMMON /RCNTRL/	ROOP	SCNTRL 194
00173		COMMON /RCNTRL/	RSDIST	SCNTRL 195
00174		COMMON /RCNTRL/	SDAY	SCNTRL 196
00175		COMMON /RCNTRL/	SEASON	SCNTRL 197
00176		COMMON /RCNTRL/	SIGE (25)	SCNTRL 198
00177		COMMON /RCNTRL/	SIND	SCNTRL 199
00178		COMMON /RCNTRL/	SOLS	SCNTRL 200
00179		COMMON /RCNTRL/	TSTD	SCNTRL 201
00180		COMMON /RCNTRL/	PLEVS (25)	SCNTRL 202
00181		COMMON /RCNTRL/	HEATW	SCNTRL 203
00182		COMMON /RCNTRL/	HEATI	SCNTRL 204
00183		COMMON /RCNTRL/	EPS	SCNTRL 205
00184		COMMON /RCNTRL/	EPSFAC	SCNTRL 206
00185		COMMON /RCNTRL/	CALTOJ	SCNTRL 207
00186		COMMON /RCNTRL/	PZERO	SCNTRL 208
	C			SCNTRL 209
00187		EQUIVALENCE	(RC0,RC(1))	SCNTRL 210
00188		REAL	RC0, RC(200)	SCNTRL 211
	C			SCNTRL 212
	C	INTEGER MODEL CONSTANTS		SCNTRL 213
	C	=====		SCNTRL 214
00189		COMMON /IDPARM/	IJUMP (46)	SCNTRL 215
00190		COMMON /IDPARM/	IDSP02	SCNTRL 216
00191		COMMON /IDPARM/	INDEX (72)	SCNTRL 217
00192		COMMON /IDPARM/	IROD	SCNTRL 218
00193		COMMON /IDPARM/	JC (46)	SCNTRL 219
00194		COMMON /IDPARM/	JE (2)	SCNTRL 220
00195		COMMON /IDPARM/	JP (2,2)	SCNTRL 221
00196		COMMON /IDPARM/	KSTEP	SCNTRL 222
00197		COMMON /IDPARM/	MJ (46)	SCNTRL 223

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00198      COMMON /IDPARM/ NHMS1
00199      COMMON /IDPARM/ NYMD1

C
C LOGICAL MODEL CONSTANTS
C =====
00200      COMMON /LDPARM/ FILTER (46)
00201      COMMON /LDPARM/ ITAPE
00202      COMMON /LDPARM/ START

C
00203      LOGICAL      FILTER
00204      LOGICAL      ITAPE
00205      LOGICAL      START

C
C REAL MODEL CONSTANTS
C =====
00206      COMMON /RDPARM/ ADLDP
00207      COMMON /RDPARM/ CON1
00208      COMMON /RDPARM/ CON1DT
00209      COMMON /RDPARM/ CON2
00210      COMMON /RDPARM/ CON2DT
00211      COMMON /RDPARM/ CON3
00212      COMMON /RDPARM/ CON3DT
00213      COMMON /RDPARM/ CON4
00214      COMMON /RDPARM/ CON4DT
00215      COMMON /RDPARM/ CON5
00216      COMMON /RDPARM/ COSL (46)
00217      COMMON /RDPARM/ COSLON (72)
00218      COMMON /RDPARM/ CPD2
00219      COMMON /RDPARM/ DXP (46)
00220      COMMON /RDPARM/ DXYP (46)
00221      COMMON /RDPARM/ DYP (46)
00222      COMMON /RDPARM/ FCORLS (46)
00223      COMMON /RDPARM/ F1DT
00224      COMMON /RDPARM/ F2DT
00225      COMMON /RDPARM/ H1DT
00226      COMMON /RDPARM/ H2DT
00227      COMMON /RDPARM/ PKSTD
00228      COMMON /RDPARM/ PKTOP
00229      COMMON /RDPARM/ RLAT (46)
00230      COMMON /RDPARM/ RLATD (46)
00231      COMMON /RDPARM/ ROCPDT
00232      COMMON /RDPARM/ ROCPPI
00233      COMMON /RDPARM/ SGNP (2)
00234      COMMON /RDPARM/ SINL (46)
00235      COMMON /RDPARM/ SINLON (72)
00236      COMMON /RDPARM/ THSTD
00237      COMMON /RDPARM/ THSTD2
00238      COMMON /RDPARM/ WSAVE (159)
00239      COMMON /RDPARM/ DSIG (9)
00240      COMMON /RDPARM/ SIG (9)

C
C * * *
C GLOBAL MODEL SURFACE FIELDS
C
00241      COMMON /QANDQT/ QS(72,19,46)

C
00242      DIMENSION    PHIS(1368,1)
00243      DIMENSION    SMTH(1368,23)
00244      DIMENSION    ALBEDO(1368,1)
00245      DIMENSION    GT(1368,1)
00246      DIMENSION    GW(1368,1)
00247      DIMENSION    TS(1368,1)
00248      DIMENSION    SHS(1368,1)
00249      DIMENSION    P(72,19,1)
00250      DIMENSION    TMIN(1368,1)
00251      DIMENSION    TMAX(1368,1)
00252      DIMENSION    PREACC(1368,1)
00253      DIMENSION    PRECON(1368,1)
00254      DIMENSION    HFLUX(1368,1)
00255      DIMENSION    EFLUX(1368,1)
00256      DIMENSION    FUSION(1368,1)
00257      DIMENSION    RADSWG(1368,1)

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SCNTRL 224
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SQANDQT 11
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SQANDQT 13
SQANDQT 14
SQANDQT 15
SQANDQT 16
SQANDQT 17
SQANDQT 18
SQANDQT 19
SQANDQT 20
SQANDQT 21

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00258	DIMENSION	RADLWG(1368,1)	SQANDQT 22
00259	DIMENSION	ICLOUD(1368,1)	SQANDQT 23
00260	C EQUIVALENCE	(QS(1,1,1),PHIS(1,1))	SQANDQT 24
00261	EQUIVALENCE	(QS(1,2,1),SMTH(1,1))	SQANDQT 25
00262	EQUIVALENCE	(QS(1,3,1),ALBEDO(1,1))	SQANDQT 26
00263	EQUIVALENCE	(QS(1,4,1),GT(1,1))	SQANDQT 27
00264	EQUIVALENCE	(QS(1,5,1),GW(1,1))	SQANDQT 28
00265	EQUIVALENCE	(QS(1,6,1),TS(1,1))	SQANDQT 29
00266	EQUIVALENCE	(QS(1,7,1),SHS(1,1))	SQANDQT 30
00267	EQUIVALENCE	(QS(1,8,1),P(1,1,1))	SQANDQT 31
00268	EQUIVALENCE	(QS(1,10,1),TMIN(1,1))	SQANDQT 32
00269	EQUIVALENCE	(QS(1,11,1),TMAX(1,1))	SQANDQT 33
00270	EQUIVALENCE	(QS(1,12,1),PREACC(1,1))	SQANDQT 34
00271	EQUIVALENCE	(QS(1,13,1),PRECON(1,1))	SQANDQT 35
00272	EQUIVALENCE	(QS(1,14,1),HFLUX(1,1))	SQANDQT 36
00273	EQUIVALENCE	(QS(1,15,1),EFLUX(1,1))	SQANDQT 37
00274	EQUIVALENCE	(QS(1,16,1),FUSION(1,1))	SQANDQT 38
00275	EQUIVALENCE	(QS(1,17,1),RADSWG(1,1))	SQANDQT 39
00276	EQUIVALENCE	(QS(1,18,1),RADLWG(1,1))	SQANDQT 40
00277	EQUIVALENCE	(QS(1,19,1),ICLOUD(1,1))	SQANDQT 41
	C		SQANDQT 42
	C	GLOBAL MODEL UPPER-AIR FIELDS	SQANDQT 43
00278	COMMON /QANDQT/	QU(72,9,14,46)	SQANDQT 44
	C		SQANDQT 45
00279	DIMENSION	U(72,9,14,1)	SQANDQT 46
00280	DIMENSION	V(72,9,14,1)	SQANDQT 47
00281	DIMENSION	T(72,9,14,1)	SQANDQT 48
00282	DIMENSION	SH(72,9,14,1)	SQANDQT 49
00283	DIMENSION	PHI(72,9,14,1)	SQANDQT 50
00284	DIMENSION	OMEGA(72,126,1)	SQANDQT 51
00285	DIMENSION	DIABAT(72,126,1)	SQANDQT 52
00286	DIMENSION	RADSW(72,126,1)	SQANDQT 53
00287	DIMENSION	RADLW(72,126,1)	SQANDQT 54
	C		SQANDQT 55
00288	EQUIVALENCE	(QU(1,1,1,1),U(1,1,1,1))	SQANDQT 56
00289	EQUIVALENCE	(QU(1,1,3,1),V(1,1,1,1))	SQANDQT 57
00290	EQUIVALENCE	(QU(1,1,5,1),T(1,1,1,1))	SQANDQT 58
00291	EQUIVALENCE	(QU(1,1,7,1),SH(1,1,1,1))	SQANDQT 59
00292	EQUIVALENCE	(QU(1,1,9,1),PHI(1,1,1,1))	SQANDQT 60
00293	EQUIVALENCE	(QU(1,1,11,1),OMEGA(1,1,1,1))	SQANDQT 61
00294	EQUIVALENCE	(QU(1,1,12,1),DIABAT(1,1,1,1))	SQANDQT 62
00295	EQUIVALENCE	(QU(1,1,13,1),RADSW(1,1,1,1))	SQANDQT 63
00296	EQUIVALENCE	(QU(1,1,14,1),RADLW(1,1,1,1))	SQANDQT 64
	C		SQANDQT 65
	C	PHYSICS PARAMETERS AND CONSTANTS	SCNTRLP 2
00297	COMMON /CNTRLP/	CDFR	SCNTRLP 3
00298	COMMON /CNTRLP/	CDXL	SCNTRLP 4
00299	COMMON /CNTRLP/	CDXO	SCNTRLP 5
00300	COMMON /CNTRLP/	CLH	SCNTRLP 6
00301	COMMON /CNTRLP/	COE (9)	SCNTRLP 7
00302	COMMON /CNTRLP/	COEF	SCNTRLP 8
00303	COMMON /CNTRLP/	COEFS	SCNTRLP 9
00304	COMMON /CNTRLP/	COSHOT	SCNTRLP 10
00305	COMMON /CNTRLP/	CPP	SCNTRLP 11
00306	COMMON /CNTRLP/	CTID	SCNTRLP 12
00307	COMMON /CNTRLP/	CUMDAY	SCNTRLP 13
00308	COMMON /CNTRLP/	CUMRAT	SCNTRLP 14
00309	COMMON /CNTRLP/	C10	SCNTRLP 15
00310	COMMON /CNTRLP/	C100	SCNTRLP 16
00311	COMMON /CNTRLP/	C40	SCNTRLP 17
00312	COMMON /CNTRLP/	DELTA	SCNTRLP 18
00313	COMMON /CNTRLP/	DTC3	SCNTRLP 19
00314	COMMON /CNTRLP/	DTOUT	SCNTRLP 20
00315	COMMON /CNTRLP/	ED	SCNTRLP 21
00316	COMMON /CNTRLP/	EDNM	SCNTRLP 22
00317	COMMON /CNTRLP/	FCOEF	SCNTRLP 23
00318	COMMON /CNTRLP/	FMU	SCNTRLP 24
00319	COMMON /CNTRLP/	FWET	SCNTRLP 25
00320	COMMON /CNTRLP/	GAMFAC	SCNTRLP 26
			SCNTRLP 27

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00321      COMMON /CNTRLP/ GTOP0
00322      COMMON /CNTRLP/ HICE
00323      COMMON /CNTRLP/ NDT03
00324      COMMON /CNTRLP/ NFLW
00325      COMMON /CNTRLP/ PIM
00326      COMMON /CNTRLP/ QHOG
00327      COMMON /CNTRLP/ SHLTOP
00328      COMMON /CNTRLP/ SINROT
00329      COMMON /CNTRLP/ SNOVN
00330      COMMON /CNTRLP/ SNOWS
00331      COMMON /CNTRLP/ STBO
00332      COMMON /CNTRLP/ STERP1
00333      COMMON /CNTRLP/ STERP2
00334      COMMON /CNTRLP/ TICE
00335      COMMON /CNTRLP/ TLTOP
00336      COMMON /CNTRLP/ XDAY
00337      COMMON /CNTRLP/ ZLNCO
00338      LOGICAL      QHOG

C
C * - -
C MONTHLY DATA FIELDS
00339      COMMON /MNTHLY/ TOPOG2(72,46,2),
&      GW2(72,46,2),
&      ALBDO2(72,46,2)
00340      DIMENSION TOPOG1(72,46),
&      GW1(72,46),
&      ALBDO1(72,46)
00341      EQUIVALENCE (TOPOG1(1,1),TOPOG2(1,1,1))
00342      EQUIVALENCE (GW1(1,1),GW2(1,1,1))
00343      EQUIVALENCE (ALBDO1(1,1),ALBDO2(1,1,1))
00344      COMMON /AMAM/ QSH(72,46,18),QUH(72,9,46,9)
00345      HALF PRECISION QSH,QUH

C
00346      COMMON      WORK1(512,128,1)

C
00347      CHARACTER*8 CUTOFF

C
C MODULO ARITHMETIC COUNTER
C =====
00348      NXM0D(N,M) = MOD(N,M) + 1

C
C HHMMSS EVENT TIMESTEP COUNTER
C =====
00349      MPER(N) = MODHMS(NHMS,N)/NDT

C
C *****
C
C DEBUG
00350      10000 CONTINUE
C      **** CYBER SCALAR VERSION 04.001 INPUT,100
C      **** CYBER SCALAR VERSION 04.000
C      **** CYBER SCALAR VERSION 00
C      C*****
C
C MAP COMMON BLOCKS TO EXTERNAL FILES
C =====
00351      CALL Q5OPEN ('LFN=', 'QSAVE', 'IMP')
00352      CALL Q5MAPIN ('LFN=', 'QSAVE', 'VBA=', 'QS', 'LEN=', 1024, 'LPAGE')
00353      CALL Q5OPEN ('LFN=', 'MNTHLY', 'IMP')
00354      CALL Q5MAPIN ('LFN=', 'MNTHLY', 'VBA=', 'TOPOG1', 'LEN=', 128, 'LPAGE')
00355      CALL Q5OPEN ('LFN=', 'QWORK', 'IMP')
00356      CALL Q5MAPIN ('LFN=', 'QWORK', 'VBA=', 'WORK1', 'LEN=', 128, 'LPAGE')
00357      CALL Q5OPEN ('LFN=', 'AMAM', 'IMP')
00358      CALL Q5MAPIN ('LFN=', 'AMAM', 'VBA=', 'QSH', 'LEN=', 384, 'LPAGE')

C
C GET INITIAL/RESTART CONDITIONS AND SET CONSTANTS
C =====
00359      CALL CLOCKS (ITM)
00360      LTM = ITM
00361      CALL INPUT (8908)
00362      CALL DATE (ADATE)

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SCNTRLP 28
SCNTRLP 29
SCNTRLP 30
SCNTRLP 31
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SCNTRLP 46
SMNTHLY 2
SMNTHLY 3
SMNTHLY 4
SMNTHLY 5
SMNTHLY 6
SMNTHLY 7
SMNTHLY 8
SMNTHLY 9
SMNTHLY 10
SMNTHLY 11
SMNTHLY 12
SGWSGCM 26
SGWSGCM 27
SGWSGCM 28
SGWSGCM 29
SGWSGCM 30
SGWSGCM 31
SGWSGCM 32
SGWSGCM 33
SGWSGCM 34
SGWSGCM 35
SGWSGCM 36
SGWSGCM 37
SGWSGCM 38
SGWSGCM 39
SGWSGCM 40
SGWSGCM 41
SGWSGCM 42
SBEGDEB 2
SBEGDEB 3
SBEGDEB 4
SBEGDEB 5
SBEGDEB 6
SBEGDEB 7
SGWSGCM 44
SGWSGCM 45
SGWSGCM 46
SGWSGCM 47
SGWSGCM 48
SGWSGCM 49
SGWSGCM 50
SGWSGCM 51
SGWSGCM 52
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SGWSGCM 54
SGWSGCM 55
SGWSGCM 56
SGWSGCM 57
SGWSGCM 58
SGWSGCM 59
SGWSGCM 60
SGWSGCM 61

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00363	CALL TIME (ATIME)	SGWSGCM 62
00364	WRITE(3,6908) ATIME,ADATE	SGWSGCM 63
	C READ OUT-OFF TIME FROM UNIT 60	SGWSGCM 64
	C =====	SGWSGCM 65
00365	READ(60,6905) EXPNO,CUTOFF	SGWSGCM 66
00366	WRITE(3,6907) CUTOFF	SGWSGCM 67
	C	SGWSGCM 68
	C FOR INITIAL START EXECUTE STEPS IN MAIN LOOP IN THE FOLLOWING ORDER	SGWSGCM 69
	C =====	SGWSGCM 70
	C 1. GMP AND CLIMATE INITIALIZATION	SGWSGCM 71
	C 2. ANALYSIS CYCLE IF NECESSARY	SGWSGCM 72
	C 3. LOG8 RECORD WRITE	SGWSGCM 73
	C 4. TIMINGS AND SENSE SWITCHES	SGWSGCM 74
	C 5. PHYSICS TERMS	SGWSGCM 75
00367	IF (NSTEP.LT.MATIN .OR.	SGWSGCM 76
	& (NDALT.NE.0 .AND. MPER(NDALT).LT.MATIN)) MATSNX = 1	SGWSGCM 77
00368	QBEG = NSTEP.EQ.0	SGWSGCM 78
00369	QPHY = NDPHY.NE.0 .AND. MPER(NDPHY).EQ.0	SGWSGCM 79
00370	QSHF = NDSHF.NE.0 .AND. MATSUN+MPER(NDSHF).LE.1	SGWSGCM 80
00371	QALT = NDALT.NE.0 .AND. MPER(NDALT).EQ.0	SGWSGCM 81
00372	QOUT = NDOUT.NE.0 .AND. MPER(NDOUT).EQ.0	SGWSGCM 82
00373	NSDAY = MODHMS(NHMS,240000)	SGWSGCM 83
00374	QDAY = NSDAY/NDT.EQ.0	SGWSGCM 84
00375	IF (QBEG) GO TO 40	SGWSGCM 85
	C =====	SGWSGCM 86
	C NORMAL ORDER OF EXECUTION OF STEPS IN MAIN LOOP	SGWSGCM 87
	C =====	SGWSGCM 88
	C 1. HYDRODYNAMICS INTEGRATION	SGWSGCM 89
	C 2. PHYSICS TERMS	SGWSGCM 90
	C 3. SHAPIRO FILTER	SGWSGCM 91
	C 4. GMP AND CLIMATE UPDATE	SGWSGCM 92
	C 5. ANALYSIS CYCLE IF NECESSARY	SGWSGCM 93
	C 6. LOG8 RECORD WRITE	SGWSGCM 94
	C 7. TIMINGS AND SENSE SWITCHES	SGWSGCM 95
	C	SGWSGCM 96
	C HYDRODYNAMICS	SGWSGCM 97
	C =====	SGWSGCM 98
00376	10 CONTINUE	SGWSGCM 99
00377	NSTEP = NSTEP + 1	SGWSGCM 100
00378	NHMS = INCHMS(NHMS,NDT)	SGWSGCM 101
	C DETERMINE TYPE OF TIME-STEP	SGWSGCM 102
	C MATSUN=0 FOR LEAPFROG STEP	SGWSGCM 103
	C MATSUN=1 FOR MATSUNO STEP	SGWSGCM 104
00379	NTH = NXTMOD(NSTEP,NSEQ)	SGWSGCM 105
00380	MATSUN = MATSNX	SGWSGCM 106
00381	MATSNX = MLF(NTH)	SGWSGCM 107
00382	IF (NSTEP.LT.MATIN .OR.	SGWSGCM 108
	& (NDALT.NE.0 .AND. MPER(NDALT).LT.MATIN)) MATSNX = 1	SGWSGCM 109
00383	QBEG = NSTEP.EQ.0	SGWSGCM 110
00384	QPHY = NDPHY.NE.0 .AND. MPER(NDPHY).EQ.0	SGWSGCM 111
00385	QSHF = NDSHF.NE.0 .AND. MATSUN+MPER(NDSHF).LE.1	SGWSGCM 112
00386	QALT = NDALT.NE.0 .AND. MPER(NDALT).EQ.0	SGWSGCM 113
00387	QOUT = NDOUT.NE.0 .AND. MPER(NDOUT).EQ.0	SGWSGCM 114
00388	NSDAY = MODHMS(NHMS,240000)	SGWSGCM 115
00389	QDAY = NSDAY/NDT.EQ.0	SGWSGCM 116
00390	DT = 2*NDT	SGWSGCM 117
00391	IF (MATSUN.EQ.0) GO TO 15	SGWSGCM 118
	C MATSUNO PREDICTOR STEP ONLY	SGWSGCM 119
	C =====	SGWSGCM 120
00392	DT = NDT	SGWSGCM 121
00393	NB = NXTMOD(NB,2)	SGWSGCM 122
00394	ND = NXTMOD(ND,2)	SGWSGCM 123
00395	KSTEP = 0	SGWSGCM 124
00396	CALL COMPO (&912)	SGWSGCM 125
	C MATSUNO CORRECTOR STEP OR LEAPFROG STEP	SGWSGCM 126
	C =====	SGWSGCM 127
00397	15 CONTINUE	SGWSGCM 128
00398	NB = NXTMOD(NB,2)	SGWSGCM 129
00399	ND = NXTMOD(ND,2)	SGWSGCM 130
		SGWSGCM 131
		SGWSGCM 132

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00400      KSTEP = 1 + MATSNX
00401      CALL COMPO (&912)
C
C PHYSICS
C =====
00402      20          CONTINUE
00403      IF (.NOT.QPHY) GO TO 30
C ADD PHYSICS TERMS TO BOTH FIELDS IF NEXT STEP IS LEAPFROG
00404      CALL CONSTA
00405      DO 25 J=JSP,JNP
00406      IF (MATSNX.EQ.0) CALL DIFFQ (ND,NB,J)
00407      IF (MJ(J).NE.0) CALL POLOUT (NB,MJ(J))
00408      CALL COMPS (J)
00409      IF (MJ(J).NE.0) CALL POLINP (NB,MJ(J))
00410      IF (MATSNX.EQ.0) CALL ADDQ (ND,NB,J)
00411      25          CONTINUE
C
C SHAPIRO FILTER
C =====
00412      30          CONTINUE
00413      IF (QBEG) GO TO 10
C FILTER ONCE FOR MATSUNO
C FILTER TWICE FOR LEAPFROG
00414      IF (.NOT.QSHF) GO TO 35
00415      CALL SMSHAP
00416      35          CONTINUE
C
C GMP AND CLIMATE TERMS
C =====
00417      40          CONTINUE
00418      IF (QBEG.OR.QDAY) CALL DAILY (&908)
00419      QEND = NYMD.GT.NYMD.EQ.NYMD.EQ.NYMD.EQ.NHMS.GE.NHMS
00420      QRSW = NDRSW.NE.0 .AND. MPER(NDRSW).EQ.0
00421      QRSH = .FALSE.
00422      IF (NKRSH.EQ.0) GO TO 41
00423      QRSH = (NKRSH.NE.0 .AND. (QBEG.OR.QEND)) .OR.
1          (NKRSH.GT.0 .AND. (QDAY.AND.MOD(MODYMD(NYMD),NKRSH).EQ.0))
00424      41 QRSH = QRSH .AND. QOUT
C
C ANALYSIS CYCLE
C =====
00425      50          CONTINUE
00426      IF (.NOT.QALT) GO TO 60
00427      CALL ALTER2
00428      IF (MATIN.LT.1) GO TO 60
00429      DO 55 J=JSP,JNP
00430      CALL COPYQ (ND,NB,J)
00431      55          CONTINUE
C
C LOGS AND/OR RESTART RECORD WRITE
C =====
00432      60          CONTINUE
00433      IF (.NOT.(QRSW .OR. QOUT .OR. QRSH)) GO TO 70
00434      IF (QOUT) CALL VERT
00435      CALL TWRITE (0,&901,&908)
00436      IF (QBEG.OR.QOUT.OR.QEND) CALL INITSD
C
C PRINT TIMINGS AND CHECK SENSE SWITCHES
C =====
00437      70          CONTINUE
00438      CALL CLOCKS (NTM)
00439      TTM = .01*(ITM-NTM)
00440      STM = .01*(LTM-NTM)
00441      LTM = NTM
00442      WRITE (3,6070) JOB, NSTEP, MATSUN, NYMD, NHMS, STM, TTM
00443      IF (QEND) GO TO 900
00444      CALL CUTCHK(CUTOFF,&906)
00445      IF (QBEG) GO TO 20
C
C END OF MAIN LOOP
C =====

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SGWSGCM133
 SGWSGCM134
 SGWSGCM135
 SGWSGCM136
 SGWSGCM137
 SGWSGCM138
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 SGWSGCM143
 SGWSGCM144
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 SGWSGCM196
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 SGWSGCM198
 SGWSGCM199
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 SGWSGCM201
 SGWSGCM202
 SGWSGCM203

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00446      GO TO 10
C .....
C END TIME REACHED
C =====
00447      900      CONTINUE
00448      WRITE (3,6900) NSTEP, NYMD, NHMS
00449      STOP 0
C .....
C ALLOTTED OUTPUT RECORDS REACHED
C =====
00450      901      CONTINUE
00451      WRITE (3,6900) NSTEP, NYMD, NHMS
00452      STOP 1
C .....
C CUT-OFF TIME EXCEEDED
C =====
00453      906      CONTINUE
00454      WRITE (3,6906)
00455      IF(OUT) CALL VERT
00456      CALL TWRITE (6,6901,6908)
00457      WRITE (3,6900) NSTEP, NYMD, NHMS
00458      STOP 6
C .....
C INPUT/OUTPUT ERROR
C =====
00459      908      CONTINUE
00460      WRITE (3,6900) NSTEP, NYMD, NHMS
00461      STOP 8
C .....
C MODEL DIAGNOSTIC
C =====
00462      912      CONTINUE
00463      WRITE (3,6900) NSTEP, NYMD, NHMS
00464      STOP 12
C .....
C .....
00465      6070 FORMAT(' JOB ',A8,8X,
&      ' STEP ',I8,' (',I1,')',8X,
&      ' TIME ',I6,2X,I6,8X,
&      ' CPU ',2F8.2)
00466      6900 FORMAT(' TERMINATION OF RUN AT STEP ',I8,4X,' TIME ',I6,2X,I6)
00467      6905 FORMAT(4X,A4/2X,A6)
00468      6906 FORMAT(' OSENSE SWITCH 6 ON')
00469      6907 FORMAT(' CUT-OFF TIME FOR COMPUTATION IS: ',A6)
00470      6908 FORMAT(' STARTING COMPUTATION AT ',A8,' ON ',A8)
00471      END

```

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SGWSGCM204
SGWSGCM205
SGWSGCM206
SGWSGCM207
SGWSGCM208
SGWSGCM209
SGWSGCM210
SGWSGCM211
SGWSGCM212
SGWSGCM213
SGWSGCM214
SGWSGCM215
SGWSGCM216
SGWSGCM217
SGWSGCM218
SGWSGCM219
SGWSGCM220
SGWSGCM221
SGWSGCM222
SGWSGCM223
SGWSGCM224
SGWSGCM225
SGWSGCM226
SGWSGCM227
SGWSGCM228
SGWSGCM229
SGWSGCM230
SGWSGCM231
SGWSGCM232
SGWSGCM233
SGWSGCM234
SGWSGCM235
SGWSGCM236
SGWSGCM237
SGWSGCM238
SGWSGCM239
SGWSGCM240
SGWSGCM241
SGWSGCM242
SGWSGCM243
SGWSGCM244
SGWSGCM245
SGWSGCM246
SGWSGCM247
SGWSGCM248
SGWSGCM249
SGWSGCM250
SGWSGCM251

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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10	376	413	446				
10000	350						
15	397	391					
20	402	445					
25	411	405					
30	412	403					
35	416	414					
40	417	375					
41	424	422					
50	425						
55	431	429					
60	432	426	428				
6070	465	442					
6900	465	448	451	457	460	463	
6905	467	365					
6906	468	454					
6907	469	366					
6908	470	364					
70	437	433					

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GWSGCM 13

VARIABLE MAP

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VARIABLE MAP
--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

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A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

[illegible]

GWSGCM 15

[illegible]

[illegible]

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RGAS	RCNTRL	REAL	SIMPLE	171	
RLAT	RDPARM	REAL	ARRAY	229	
RLATD	RDPARM	REAL	ARRAY	230	
ROCP	RCNTRL	REAL	SIMPLE	172	
ROCPDT	RDPARM	REAL	SIMPLE	231	
ROCFP1	RDPARM	REAL	SIMPLE	232	
RSDIST	RCNTRL	REAL	SIMPLE	173	
SDAY	RCNTRL	REAL	SIMPLE	174	
SEASON	RCNTRL	REAL	SIMPLE	175	
SGNP	RDPARM	REAL	ARRAY	233	
SH	QANDQT	REAL	ARRAY	282	291
SHLTOP	CNTRLP	REAL	SIMPLE	327	
SHS	QANDQT	REAL	ARRAY	248	266
SIG	RDPARM	REAL	ARRAY	240	
SIGE	RCNTRL	REAL	ARRAY	176	
SIND	RCNTRL	REAL	SIMPLE	177	
SINL	RDPARM	REAL	ARRAY	234	
SINLON	RDPARM	REAL	ARRAY	235	
SINROT	CNTRLP	REAL	SIMPLE	328	
SMTH	QANDQT	REAL	ARRAY	243	261
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125
SNOWN	CNTRLP	REAL	SIMPLE	329	
SNOWS	CNTRLP	REAL	SIMPLE	330	
SOLS	RCNTRL	REAL	SIMPLE	178	
START	LDPARM	LOGICAL	SIMPLE	202	205
STBO	CNTRLP	REAL	SIMPLE	331	
STERP1	CNTRLP	REAL	SIMPLE	332	
STERP2	CNTRLP	REAL	SIMPLE	333	
STM		REAL	SIMPLE	440/S	442/W
T	QANDQT	REAL	ARRAY	281	290
THSTD	RDPARM	REAL	SIMPLE	236	
THSTD2	RDPARM	REAL	SIMPLE	237	
TICE	CNTRLP	REAL	SIMPLE	334	
TLTOP	CNTRLP	REAL	SIMPLE	335	
TMAX	QANDQT	REAL	ARRAY	251	269
TMIN	QANDQT	REAL	ARRAY	250	268
TOPOG1	MNTHLY	REAL	ARRAY	340	341
TOPOG2	MNTHLY	REAL	ARRAY	339	341
TS	QANDQT	REAL	ARRAY	247	265
TSTD	RCNTRL	REAL	SIMPLE	179	
TTM		REAL	SIMPLE	439/S	442/W
U	QANDQT	REAL	ARRAY	279	288
V	QANDQT	REAL	ARRAY	280	289
VER	CCNTRL	CHAR*8	SIMPLE	10	23
WORK1	//	REAL	ARRAY	346	356
WSAVE	RDPARM	REAL	ARRAY	238	
XDAY	CNTRLP	REAL	SIMPLE	336	
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24
ZLNCO	CNTRLP	REAL	SIMPLE	337	

PROCEDURE MAP

--NAME-----TYPE-----CLASS-----REFERENCES D=STMT FN DEF, A=ARGLIST

ADDQ		SUBROUTINE	410																	
ALTER2		SUBROUTINE	427																	
CLOCKS		SUBROUTINE	359	438																
COMP0		SUBROUTINE	396	401																
COMP3		SUBROUTINE	408																	
CONSTA		SUBROUTINE	404																	
COPYQ		SUBROUTINE	430																	
CUTCHK		SUBROUTINE	444																	
DAILY		SUBROUTINE	418																	
DATE		SUBROUTINE	362																	
DIFFQ		SUBROUTINE	406																	
INCHMS	INTEGER	FUNCTION	378																	
INITSD		SUBROUTINE	436																	
INPUT		SUBROUTINE	361																	
MOD	INTEGER	INTRINSIC	348	423																
MODHMS	INTEGER	FUNCTION	349	373	388															
MODYMD	INTEGER	FUNCTION	423																	
MPER	INTEGER	STAT FUNC	349/S	367	369	370	371	372	382	384	385	386	387							

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00001 SUBROUTINE ADDQ (N1, N2, J) SADDQ 2
C ..... SADDQ 3
C PURPOSE SADDQ 4
C UTILITY SUBROUTINE TO ADD 4TH-ORDER MODEL VALUES. SADDQ 5
C CALLED BY MAIN (GWSGCM) ONLY SADDQ 6
C USAGE SADDQ 7
C SADDQ 8
C ARGUMENTS DESCRIPTION SADDQ 9
C N1 TIME STEP POINTER OF VALUES TO WHICH TO ADD SADDQ 10
C N2 TIME STEP POINTER OF VALUES TO ADD SADDQ 11
C J LATITUDE GRID BAND SADDQ 12
C SADDQ 13
C SUBPROGRAMS NEEDED SADDQ 14
C NAME DESCRIPTION SADDQ 15
C NONE SADDQ 16
C SADDQ 17
C RECORD OF MODIFICATIONS SADDQ 18
C BASED ON OLD VERSION 8. SADDQ 19
C SADDQ 20
C ?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS? SADDQ 21
C 05/04/83 RAMESH THIS PART AND COMMENTS SADDQ 22
C SADDQ 23
C REMARKS: SADDQ 24
C ( 1 ) ?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.? SADDQ 25
C ..... SADDQ 26
C M / A - C O M S I G M A D A T A I N C . N A S A - G S F C SADDQ 27
C ..... SADDQ 28
C SADDQ 29
C SADDQ 30
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD SCNTRL 2
C ..... SCNTRL 3
C ..... SCNTRL 4
C 00002 COMMON /CCNTRL/ CC0 SCNTRL 5
C 00003 COMMON /CCNTRL/ ADATE SCNTRL 6
C 00004 COMMON /CCNTRL/ ATIME SCNTRL 7
C 00005 COMMON /CCNTRL/ JIC SCNTRL 8
C 00006 COMMON /CCNTRL/ JOB SCNTRL 9
C 00007 COMMON /CCNTRL/ CCSP06 SCNTRL 10
C 00008 COMMON /CCNTRL/ CCSP07 SCNTRL 11
C 00009 COMMON /CCNTRL/ CCSP08 SCNTRL 12
C 00010 COMMON /CCNTRL/ VER SCNTRL 13
C 00011 COMMON /CCNTRL/ XLABEL (10) SCNTRL 14
C 00012 COMMON /CCNTRL/ CQS (30) SCNTRL 15
C 00013 COMMON /CCNTRL/ CQU (10) SCNTRL 16
C ..... SCNTRL 17
C 00014 EQUIVALENCE (CC0,CC(1)) SCNTRL 18
C 00015 CHARACTER*8 CC0, CC(200) SCNTRL 19
C 00016 CHARACTER*8 ADATE SCNTRL 20
C 00017 CHARACTER*8 ATIME SCNTRL 21
C 00018 CHARACTER*8 JIC SCNTRL 22
C 00019 CHARACTER*8 JOB SCNTRL 23
C 00020 CHARACTER*8 CCSP06 SCNTRL 24
C 00021 CHARACTER*8 CCSP07 SCNTRL 25
C 00022 CHARACTER*8 CCSP08 SCNTRL 26
C 00023 CHARACTER*8 VER SCNTRL 27
C 00024 CHARACTER*8 XLABEL SCNTRL 28
C ..... SCNTRL 29
C C ..... SCNTRL 30
C C ..... SCNTRL 31
C ..... SCNTRL 32
C 00025 COMMON /ICNTRL/ IC0 SCNTRL 33
C 00026 COMMON /ICNTRL/ IM SCNTRL 34
C 00027 COMMON /ICNTRL/ IMD2 SCNTRL 35
C 00028 COMMON /ICNTRL/ IMD2P1 SCNTRL 36
C 00029 COMMON /ICNTRL/ NDRSW SCNTRL 37
C 00030 COMMON /ICNTRL/ JM SCNTRL 38
C 00031 COMMON /ICNTRL/ JMD2 SCNTRL 39
C 00032 COMMON /ICNTRL/ JMT2 SCNTRL 40
C 00033 COMMON /ICNTRL/ JNP SCNTRL 41
C 00034 COMMON /ICNTRL/ JO4 SCNTRL 42
C 00035 COMMON /ICNTRL/ JO8 SCNTRL 43
C 00036 COMMON /ICNTRL/ JSP

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00037	COMMON /ICNTRL/ KLIALB	SCNTRL 44
00038	COMMON /ICNTRL/ KLI GW	SCNTRL 45
00039	COMMON /ICNTRL/ KLISST	SCNTRL 46
00040	COMMON /ICNTRL/ KS	SCNTRL 47
00041	COMMON /ICNTRL/ KU	SCNTRL 48
00042	COMMON /ICNTRL/ LOGBR	SCNTRL 49
00043	COMMON /ICNTRL/ MATIN	SCNTRL 50
00044	COMMON /ICNTRL/ MATSNX	SCNTRL 51
00045	COMMON /ICNTRL/ MATSUN	SCNTRL 52
00046	COMMON /ICNTRL/ MLF (12)	SCNTRL 53
00047	COMMON /ICNTRL/ MROD	SCNTRL 54
00048	COMMON /ICNTRL/ NKRSH	SCNTRL 55
00049	COMMON /ICNTRL/ MSM	SCNTRL 56
00050	COMMON /ICNTRL/ NB	SCNTRL 57
00051	COMMON /ICNTRL/ ND	SCNTRL 58
00052	COMMON /ICNTRL/ NDALT	SCNTRL 59
00053	COMMON /ICNTRL/ NDAY	SCNTRL 60
00054	COMMON /ICNTRL/ NDOUT	SCNTRL 61
00055	COMMON /ICNTRL/ NDPHY	SCNTRL 62
00056	COMMON /ICNTRL/ NDSHF	SCNTRL 63
00057	COMMON /ICNTRL/ NDT	SCNTRL 64
00058	COMMON /ICNTRL/ NHMS	SCNTRL 65
00059	COMMON /ICNTRL/ NHMSE	SCNTRL 66
00060	COMMON /ICNTRL/ NHMSO	SCNTRL 67
00061	COMMON /ICNTRL/ NLAY	SCNTRL 68
00062	COMMON /ICNTRL/ NLAYM1	SCNTRL 69
00063	COMMON /ICNTRL/ NLAYP1	SCNTRL 70
00064	COMMON /ICNTRL/ NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
C		SCNTRL 84
00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 85
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 86
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 87
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 88
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 89
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 91
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 92
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 93
00086	EQUIVALENCE (IICLOUD ,IQS(10))	SCNTRL 94
C		SCNTRL 95
00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 96
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 97
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 98
C		SCNTRL 99
00090	EQUIVALENCE (ICO,IC(1))	SCNTRL 100
00091	INTEGER IQO, IC(200)	SCNTRL 101
C		SCNTRL 102
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL 103
C	=====	SCNTRL 104
00092	COMMON /LCNTRL/ LCO	SCNTRL 105
00093	COMMON /LCNTRL/ QALT	SCNTRL 106
00094	COMMON /LCNTRL/ QBEG	SCNTRL 107
00095	COMMON /LCNTRL/ QDAY	SCNTRL 108
00096	COMMON /LCNTRL/ QEND	SCNTRL 109
00097	COMMON /LCNTRL/ QOUT	SCNTRL 110
00098	COMMON /LCNTRL/ QPHY	SCNTRL 111
00099	COMMON /LCNTRL/ QSHF	SCNTRL 112
00100	COMMON /LCNTRL/ SN2FLG	SCNTRL 113
00101	COMMON /LCNTRL/ QRSW	SCNTRL 114

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00102	COMMON /LCNTRL/	QRSH	SCNTRL 115
00103	COMMON /LCNTRL/	LQS(30)	SCNTRL 116
00104	COMMON /LCNTRL/	LQU(10)	SCNTRL 117
	C		SCNTRL 118
00105	EQUIVALENCE	(LTMIN ,LQS(1))	SCNTRL 119
00106	EQUIVALENCE	(LTMAX ,LQS(2))	SCNTRL 120
00107	EQUIVALENCE	(LPREACC ,LQS(3))	SCNTRL 121
00108	EQUIVALENCE	(LPRECON ,LQS(4))	SCNTRL 122
00109	EQUIVALENCE	(LHFLUX ,LQS(5))	SCNTRL 123
00110	EQUIVALENCE	(LEFLUX ,LQS(6))	SCNTRL 124
00111	EQUIVALENCE	(LFUSION ,LQS(7))	SCNTRL 125
00112	EQUIVALENCE	(LRADSWG ,LQS(8))	SCNTRL 126
00113	EQUIVALENCE	(LRADLWG ,LQS(9))	SCNTRL 127
00114	EQUIVALENCE	(LICLOUD ,LQS(10))	SCNTRL 128
	C		SCNTRL 129
00115	EQUIVALENCE	(LOMEGA ,LQU(1))	SCNTRL 130
00116	EQUIVALENCE	(LDIABAT ,LQU(2))	SCNTRL 131
00117	EQUIVALENCE	(LRADSW ,LQU(3))	SCNTRL 132
	C		SCNTRL 133
00118	LOGICAL	QALT	SCNTRL 134
00119	LOGICAL	QBEG	SCNTRL 135
00120	LOGICAL	QDAY	SCNTRL 136
00121	LOGICAL	QEND	SCNTRL 137
00122	LOGICAL	QOUT	SCNTRL 138
00123	LOGICAL	QPHY	SCNTRL 139
00124	LOGICAL	QSHF	SCNTRL 140
00125	LOGICAL	SN2FLG	SCNTRL 141
00126	LOGICAL	QRSW	SCNTRL 142
00127	LOGICAL	QRSH	SCNTRL 143
	C		SCNTRL 144
00128	LOGICAL	LQS	SCNTRL 145
00129	LOGICAL	LQU	SCNTRL 146
00130	LOGICAL	LTMIN	SCNTRL 147
00131	LOGICAL	LTMAX	SCNTRL 148
00132	LOGICAL	LPREACC	SCNTRL 149
00133	LOGICAL	LPRECON	SCNTRL 150
00134	LOGICAL	LHFLUX	SCNTRL 151
00135	LOGICAL	LEFLUX	SCNTRL 152
00136	LOGICAL	LFUSION	SCNTRL 153
00137	LOGICAL	LRADSWG	SCNTRL 154
00138	LOGICAL	LRADLWG	SCNTRL 155
00139	LOGICAL	LICLOUD	SCNTRL 156
	C		SCNTRL 157
00140	LOGICAL	LOMEGA	SCNTRL 158
00141	LOGICAL	LDIABAT	SCNTRL 159
00142	LOGICAL	LRADSW	SCNTRL 160
	C		SCNTRL 161
00143	EQUIVALENCE	(LC0,LC(1))	SCNTRL 162
00144	LOGICAL	LC0, LC(200)	SCNTRL 163
	C		SCNTRL 164
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL 165
	C	=====	SCNTRL 166
00145	COMMON /RCNTRL/	RC0	SCNTRL 167
00146	COMMON /RCNTRL/	APHEL	SCNTRL 168
00147	COMMON /RCNTRL/	BETA	SCNTRL 169
00148	COMMON /RCNTRL/	COSD	SCNTRL 170
00149	COMMON /RCNTRL/	CP	SCNTRL 171
00150	COMMON /RCNTRL/	DAYSPLY	SCNTRL 172
00151	COMMON /RCNTRL/	DEC	SCNTRL 173
00152	COMMON /RCNTRL/	DECMAX	SCNTRL 174
00153	COMMON /RCNTRL/	DIST	SCNTRL 175
00154	COMMON /RCNTRL/	DLAT	SCNTRL 176
00155	COMMON /RCNTRL/	DLOD	SCNTRL 177
00156	COMMON /RCNTRL/	DT	SCNTRL 178
00157	COMMON /RCNTRL/	ECCN	SCNTRL 179
00158	COMMON /RCNTRL/	GNU1	SCNTRL 180
00159	COMMON /RCNTRL/	GNU2	SCNTRL 181
00160	COMMON /RCNTRL/	GRAV	SCNTRL 182
00161	COMMON /RCNTRL/	OMEGA2	SCNTRL 183
00162	COMMON /RCNTRL/	PI	SCNTRL 184
00163	COMMON /RCNTRL/	PI180	SCNTRL 185

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00164	COMMON /RCNTRL/	PI2	SCNTRL 186
00165	COMMON /RCNTRL/	PSTD	SCNTRL 187
00166	COMMON /RCNTRL/	PIMEAN	SCNTRL 188
00167	COMMON /RCNTRL/	PSMAX	SCNTRL 189
00168	COMMON /RCNTRL/	PSMIN	SCNTRL 190
00169	COMMON /RCNTRL/	PTOP	SCNTRL 191
00170	COMMON /RCNTRL/	RADE	SCNTRL 192
00171	COMMON /RCNTRL/	RGAS	SCNTRL 193
00172	COMMON /RCNTRL/	ROCP	SCNTRL 194
00173	COMMON /RCNTRL/	RSDIST	SCNTRL 195
00174	COMMON /RCNTRL/	SDAY	SCNTRL 196
00175	COMMON /RCNTRL/	SEASON	SCNTRL 197
00176	COMMON /RCNTRL/	SIGE (25)	SCNTRL 198
00177	COMMON /RCNTRL/	SIND	SCNTRL 199
00178	COMMON /RCNTRL/	SOLS	SCNTRL 200
00179	COMMON /RCNTRL/	TSTD	SCNTRL 201
00180	COMMON /RCNTRL/	PLEVS (25)	SCNTRL 202
00181	COMMON /RCNTRL/	HEATW	SCNTRL 203
00182	COMMON /RCNTRL/	HFATI	SCNTRL 204
00183	COMMON /RCNTRL/	EPS	SCNTRL 205
00184	COMMON /RCNTRL/	EPSFAC	SCNTRL 206
00185	COMMON /RCNTRL/	CALTOJ	SCNTRL 207
00186	COMMON /RCNTRL/	PZERO	SCNTRL 208
00187	C	EQUIVALENCE (RC0,RC(1))	SCNTRL 209
00188	C	REAL RC0, RC(200)	SCNTRL 210
	C	INTEGER MODEL CONSTANTS	SCNTRL 211
	C	=====	SCNTRL 212
00189	COMMON /IDPARM/	IJUMP (46)	SCNTRL 213
00190	COMMON /IDPARM/	IDSP02	SCNTRL 214
00191	COMMON /IDPARM/	INDEX (72)	SCNTRL 215
00192	COMMON /IDPARM/	IROD	SCNTRL 216
00193	COMMON /IDPARM/	JC (46)	SCNTRL 217
00194	COMMON /IDPARM/	JE (2)	SCNTRL 218
00195	COMMON /IDPARM/	JP (2,2)	SCNTRL 219
00196	COMMON /IDPARM/	KSTEP	SCNTRL 220
00197	COMMON /IDPARM/	MJ (46)	SCNTRL 221
00198	COMMON /IDPARM/	NHMS1	SCNTRL 222
00199	COMMON /IDPARM/	NYMD1	SCNTRL 223
	C	LOGICAL MODEL CONSTANTS	SCNTRL 224
	C	=====	SCNTRL 225
00200	COMMON /LDPARM/	FILTER (46)	SCNTRL 226
00201	COMMON /LDPARM/	ITAPE	SCNTRL 227
00202	COMMON /LDPARM/	START	SCNTRL 228
	C	LOGICAL FILTER	SCNTRL 229
00203	LOGICAL	ITAPE	SCNTRL 230
00204	LOGICAL	START	SCNTRL 231
00205	LOGICAL	START	SCNTRL 232
	C	REAL MODEL CONSTANTS	SCNTRL 233
	C	=====	SCNTRL 234
00206	COMMON /RDPARM/	ADLDP	SCNTRL 235
00207	COMMON /RDPARM/	CON1	SCNTRL 236
00208	COMMON /RDPARM/	CON1DT	SCNTRL 237
00209	COMMON /RDPARM/	CON2	SCNTRL 238
00210	COMMON /RDPARM/	CON2DT	SCNTRL 239
00211	COMMON /RDPARM/	CON3	SCNTRL 240
00212	COMMON /RDPARM/	CON3DT	SCNTRL 241
00213	COMMON /RDPARM/	CON4	SCNTRL 242
00214	COMMON /RDPARM/	CON4DT	SCNTRL 243
00215	COMMON /RDPARM/	CON5	SCNTRL 244
00216	COMMON /RDPARM/	COSL (46)	SCNTRL 245
00217	COMMON /RDPARM/	COSLON (72)	SCNTRL 246
00218	COMMON /RDPARM/	CPD2	SCNTRL 247
00219	COMMON /RDPARM/	DXP (46)	SCNTRL 248
00220	COMMON /RDPARM/	DXYP (46)	SCNTRL 249
00221	COMMON /RDPARM/	DYP (46)	SCNTRL 250
00222	COMMON /RDPARM/	FCORLS (46)	SCNTRL 251
00223	COMMON /RDPARM/	F1DT	SCNTRL 252
			SCNTRL 253
			SCNTRL 254
			SCNTRL 255
			SCNTRL 256

00224	COMMON /RDPARM/ F2DT	SCNTRL 257
00225	COMMON /RDPARM/ H1DT	SCNTRL 258
00226	COMMON /RDPARM/ H2DT	SCNTRL 259
00227	COMMON /RDPARM/ PKSTD	SCNTRL 260
00228	COMMON /RDPARM/ PKTOP	SCNTRL 261
00229	COMMON /RDPARM/ RLAT (46)	SCNTRL 262
00230	COMMON /RDPARM/ RLATD (46)	SCNTRL 263
00231	COMMON /RDPARM/ ROC PDT	SCNTRL 264
00232	COMMON /RDPARM/ ROC PP1	SCNTRL 265
00233	COMMON /RDPARM/ SGNP (2)	SCNTRL 266
00234	COMMON /RDPARM/ SINL (46)	SCNTRL 267
00235	COMMON /RDPARM/ SINLON (72)	SCNTRL 268
00236	COMMON /RDPARM/ THSTD	SCNTRL 269
00237	COMMON /RDPARM/ THSTD2	SCNTRL 270
00238	COMMON /RDPARM/ WSAVE (159)	SCNTRL 271
00239	COMMON /RDPARM/ DSIG (9)	SCNTRL 272
00240	COMMON /RDPARM/ SIG (9)	SCNTRL 273
		SCNTRL 274
		SQANDQT 2
		SQANDQT 3
		SQANDQT 4
		SQANDQT 5
		SQANDQT 6
		SQANDQT 7
		SQANDQT 8
		SQANDQT 9
		SQANDQT 10
		SQANDQT 11
		SQANDQT 12
		SQANDQT 13
		SQANDQT 14
		SQANDQT 15
		SQANDQT 16
		SQANDQT 17
		SQANDQT 18
		SQANDQT 19
		SQANDQT 20
		SQANDQT 21
		SQANDQT 22
		SQANDQT 23
		SQANDQT 24
		SQANDQT 25
		SQANDQT 26
		SQANDQT 27
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		SQANDQT 32
		SQANDQT 33
		SQANDQT 34
		SQANDQT 35
		SQANDQT 36
		SQANDQT 37
		SQANDQT 38
		SQANDQT 39
		SQANDQT 40
		SQANDQT 41
		SQANDQT 42
		SQANDQT 43
		SQANDQT 44
		SQANDQT 45
		SQANDQT 46
		SQANDQT 47
		SQANDQT 48
		SQANDQT 49
		SQANDQT 50
		SQANDQT 51
		SQANDQT 52
		SQANDQT 53
		SQANDQT 54

00241	GLOBAL MODEL SURFACE FIELDS	
	COMMON /QANDQT/ QS(72,19,46)	
00242	DIMENSION PHIS(1368,1)	
00243	DIMENSION SMTH(1368,23)	
00244	DIMENSION ALBEDO(1368,1)	
00245	DIMENSION GT(1368,1)	
00246	DIMENSION GW(1368,1)	
00247	DIMENSION TS(1368,1)	
00248	DIMENSION SHS(1368,1)	
00249	DIMENSION P(72,19,1)	
00250	DIMENSION TMIN(1368,1)	
00251	DIMENSION TMAX(1368,1)	
00252	DIMENSION PREACC(1368,1)	
00253	DIMENSION PRECON(1368,1)	
00254	DIMENSION HFLUX(1368,1)	
00255	DIMENSION EFLUX(1368,1)	
00256	DIMENSION FUSION(1368,1)	
00257	DIMENSION RADSWG(1368,1)	
00258	DIMENSION RADLWG(1368,1)	
00259	DIMENSION ICLOUD(1368,1)	
00260	EQUIVALENCE (QS(1,1,1),PHIS(1,1))	
00261	EQUIVALENCE (QS(1,2,1),SMTH(1,1))	
00262	EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))	
00263	EQUIVALENCE (QS(1,4,1),GT(1,1))	
00264	EQUIVALENCE (QS(1,5,1),GW(1,1))	
00265	EQUIVALENCE (QS(1,6,1),TS(1,1))	
00266	EQUIVALENCE (QS(1,7,1),SHS(1,1))	
00267	EQUIVALENCE (QS(1,8,1),P(1,1,1))	
00268	EQUIVALENCE (QS(1,10,1),TMIN(1,1))	
00269	EQUIVALENCE (QS(1,11,1),TMAX(1,1))	
00270	EQUIVALENCE (QS(1,12,1),PREACC(1,1))	
00271	EQUIVALENCE (QS(1,13,1),PRECON(1,1))	
00272	EQUIVALENCE (QS(1,14,1),HFLUX(1,1))	
00273	EQUIVALENCE (QS(1,15,1),EFLUX(1,1))	
00274	EQUIVALENCE (QS(1,16,1),FUSION(1,1))	
00275	EQUIVALENCE (QS(1,17,1),RADSWG(1,1))	
00276	EQUIVALENCE (QS(1,18,1),RADLWG(1,1))	
00277	EQUIVALENCE (QS(1,19,1),ICLOUD(1,1))	
00278	GLOBAL MODEL UPPER-AIR FIELDS	
	COMMON /QANDQT/ QU(72,9,14,46)	
00279	DIMENSION U(72,9,14,1)	
00280	DIMENSION V(72,9,14,1)	
00281	DIMENSION T(72,9,14,1)	
00282	DIMENSION SH(72,9,14,1)	
00283	DIMENSION PHI(72,9,14,1)	
00284	DIMENSION OMEGA(72,126,1)	
00285	DIMENSION DIABAT(72,126,1)	
00286	DIMENSION RADSW(72,126,1)	

A=ARGLIST. C=CTRL OF DO. I=DATA INIT. R=READ. S=STORE. W=WRITE

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ADDENDUM

IC	ICNTRL	INTEGER	ARRAY	90	91									
IC0	ICNTRL	INTEGER	SIMPLE	25	90	91								
ICLOUD	QANDQT	INTEGER	ARRAY	259	277									
ICNTRL		INTEGER	UNKNOWN	25	26	27	28	29	30	31	32	33	34	35
				47	37	38	39	40	41	42	43	44	45	46
				58	48	49	50	51	52	53	54	55	56	57
				69	58	60	61	62	63	64	65	66	67	68
				66	70	71	72	73	74	75	76			
ICSP53	ICNTRL	INTEGER	SIMPLE	66										
ICSP55	ICNTRL	INTEGER	SIMPLE	68										
IDIABAT	ICNTRL	INTEGER	UNKNOWN	88										
IDPARM		INTEGER	UNKNOWN	189	190	191	192	193	194	195	196	197	198	199
IDSP02	IDPARM	INTEGER	SIMPLE	190										
IEFLUX	ICNTRL	INTEGER	UNKNOWN	82										
IFUSION	ICNTRL	INTEGER	UNKNOWN	83										
IHFLUX	ICNTRL	INTEGER	UNKNOWN	81										
IICLOUD	ICNTRL	INTEGER	UNKNOWN	86										
IJUMP	IDPARM	INTEGER	ARRAY	189										
IM	ICNTRL	INTEGER	SIMPLE	26	314	318								
IMD2	ICNTRL	INTEGER	SIMPLE	27										
IMD2P1	ICNTRL	INTEGER	SIMPLE	28										
INDEX	IDPARM	INTEGER	ARRAY	191										
IONEGA	ICNTRL	INTEGER	UNKNOWN	87										
IPREACC	ICNTRL	INTEGER	UNKNOWN	79										
IPRECON	ICNTRL	INTEGER	UNKNOWN	80										
IQS	ICNTRL	INTEGER	ARRAY	75	77	78	79	80	81	82	83	84	85	86
IQU	ICNTRL	INTEGER	ARRAY	76	87	88	89							
IRADLWG	ICNTRL	INTEGER	UNKNOWN	85										
IRADSW	ICNTRL	INTEGER	UNKNOWN	89										
IRADSWG	ICNTRL	INTEGER	UNKNOWN	84										
IROD	IDPARM	INTEGER	SIMPLE	192										
ITAPE	IDPARM	LOGICAL	SIMPLE	201	204									
ITMAX	ICNTRL	INTEGER	UNKNOWN	78										
ITMIN	ICNTRL	INTEGER	UNKNOWN	77										
J		INTEGER	SIMPLE	1	304	315	315	315	319	319	319	320	320	320
JC	IDPARM	INTEGER	ARRAY	193	321	321	322	322	322					
JE	IDPARM	INTEGER	ARRAY	194										
JIC	CONTRL	CHAR*B	SIMPLE	5	18									
JM	ICNTRL	INTEGER	SIMPLE	30										
JMD2	ICNTRL	INTEGER	SIMPLE	31										
JMT2	ICNTRL	INTEGER	SIMPLE	32										
JNP	ICNTRL	INTEGER	SIMPLE	33										
JO4	ICNTRL	INTEGER	SIMPLE	34										
JOB	ICNTRL	INTEGER	SIMPLE	35										
JOB	CONTRL	CHAR*B	SIMPLE	6	19									
JP	IDPARM	INTEGER	ARRAY	195										
JSP	ICNTRL	INTEGER	SIMPLE	36										
KLIALB	ICNTRL	INTEGER	SIMPLE	37										
KLIGW	ICNTRL	INTEGER	SIMPLE	38										
KLISST	ICNTRL	INTEGER	SIMPLE	39										
KS	ICNTRL	INTEGER	SIMPLE	40										
KSTEP	IDPARM	INTEGER	SIMPLE	196										
KU	ICNTRL	INTEGER	SIMPLE	41										
L		INTEGER	SIMPLE	307/C	308	308	308	309	309	309	310	310	310	311
				311	311	317/C	319	319	319	320	320	320	321	321
				321	322	322	322							
LC	LCNTRL	LOGICAL	ARRAY	143	144									
LC0	LCNTRL	LOGICAL	SIMPLE	92	143	144								
LCNTRL		INTEGER	UNKNOWN	92	93	94	95	96	97	98	99	100	101	102
				103	104									
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	116	141									
LDPARM		INTEGER	UNKNOWN	200	201	202								
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	110	135									
LFUSION	LCNTRL	LOGICAL	UNKNOWN	111	136									
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	109	134									
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	139									
LOG8R	ICNTRL	INTEGER	SIMPLE	42										
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	115	140									
LPREACC	LCNTRL	LOGICAL	UNKNOWN	107	132									

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LPRECON	LCNTRL	LOGICAL	UNKNOWN	108	133									
LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114
				128										
LQU	LCNTRL	LOGICAL	ARRAY	104	115	116	117	129						
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138									
LRAWSW	LCNTRL	LOGICAL	UNKNOWN	117	142									
LRAWSWG	LCNTRL	LOGICAL	UNKNOWN	112	137									
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131									
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130									
M		INTEGER	SIMPLE	304/S	305	306	306	306	308	308	308	309	309	309
				310	310	310	311	311	311					
MATIN	ICNTRL	INTEGER	SIMPLE	43										
MATSNX	ICNTRL	INTEGER	SIMPLE	44										
MATSUN	ICNTRL	INTEGER	SIMPLE	45										
MJ	IDPARM	INTEGER	ARRAY	197	304									
MLF	ICNTRL	INTEGER	ARRAY	46										
MROD	ICNTRL	INTEGER	SIMPLE	47										
MSM	ICNTRL	INTEGER	SIMPLE	49										
N1		INTEGER	SIMPLE	1	306	306	308	308	309	309	310	310	311	311
				315	315	319	319	320	320	321	321	322	322	322
N2		INTEGER	SIMPLE	1	306	308	309	310	311	315	319	320	321	322
NB	ICNTRL	INTEGER	SIMPLE	50										
ND	ICNTRL	INTEGER	SIMPLE	51										
NDALT	ICNTRL	INTEGER	SIMPLE	52										
NDAY	ICNTRL	INTEGER	SIMPLE	53										
NDHOG	ICNTRL	INTEGER	SIMPLE	74										
NDOUT	ICNTRL	INTEGER	SIMPLE	54										
NDPHY	ICNTRL	INTEGER	SIMPLE	55										
NDRSW	ICNTRL	INTEGER	SIMPLE	29										
NDSHF	ICNTRL	INTEGER	SIMPLE	56										
NDT	ICNTRL	INTEGER	SIMPLE	57										
NHMS	ICNTRL	INTEGER	SIMPLE	58										
NHMS0	ICNTRL	INTEGER	SIMPLE	60										
NHMS1	IDPARM	INTEGER	SIMPLE	198										
NHMSE	ICNTRL	INTEGER	SIMPLE	59										
NKRSH	ICNTRL	INTEGER	SIMPLE	48										
NLAY	ICNTRL	INTEGER	SIMPLE	61	307	317								
NLAYM1	ICNTRL	INTEGER	SIMPLE	62										
NLAYP1	ICNTRL	INTEGER	SIMPLE	63										
NMLEV	ICNTRL	INTEGER	SIMPLE	73										
NSDAY	ICNTRL	INTEGER	SIMPLE	64										
NSEQ	ICNTRL	INTEGER	SIMPLE	65										
NSTEP	ICNTRL	INTEGER	SIMPLE	67										
NYMD	ICNTRL	INTEGER	SIMPLE	69										
NYMDO	ICNTRL	INTEGER	SIMPLE	71										
NYMD1	IDPARM	INTEGER	SIMPLE	199										
NYMDE	ICNTRL	INTEGER	SIMPLE	70										
NZINIT	ICNTRL	INTEGER	SIMPLE	72										
OMEGA	QANDQT	REAL	ARRAY	284	293									
OMEGA2	RCNTRL	REAL	SIMPLE	161										
P	QANDQT	REAL	ARRAY	249	267	315/S	315	315						
PHI	QANDQT	REAL	ARRAY	283	292									
PHIP	QPOLES	REAL	ARRAY	302										
PHIS	QANDQT	REAL	ARRAY	242	260									
PI	RCNTRL	REAL	SIMPLE	162										
PI180	RCNTRL	REAL	SIMPLE	163										
PI2	RCNTRL	REAL	SIMPLE	164										
PIMEAN	RCNTRL	REAL	SIMPLE	166										
PKSTD	RDPARM	REAL	SIMPLE	227										
PKTOP	RDPARM	REAL	SIMPLE	228										
PLEVS	RCNTRL	REAL	ARRAY	180										
PP	QPOLES	REAL	ARRAY	297	306/S	306	306							
PREACC	QANDQT	REAL	ARRAY	252	270									
PRECON	QANDQT	REAL	ARRAY	253	271									
PSMAX	RCNTRL	REAL	SIMPLE	167										
PSMIN	RCNTRL	REAL	SIMPLE	168										
PSTD	RCNTRL	REAL	SIMPLE	165										
PTOP	RCNTRL	REAL	SIMPLE	169										
PZERO	RCNTRL	REAL	SIMPLE	186										
OALT	LCNTRL	LOGICAL	SIMPLE	93	118									

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00001 SUBROUTINE AVRX (J) SAVRX 2
C ..... SAVRX 3
C PURPOSE SAVRX 4
C   FOURIER FILTER BASE FIELDS NEAR THE POLES IN THE X-DIRECTION. SAVRX 5
C   MODEL QUANTITIES FILTERED ARE U, V, POTENTIAL TEMPERATURE, SAVRX 6
C   SH, AND SLP. SAVRX 7
C   CALLED BY COMPO ONLY SAVRX 8
C ..... SAVRX 9
C USAGE SAVRX 10
C ..... SAVRX 11
C ARGUMENTS DESCRIPTION SAVRX 12
C   J LATITUDE BAND NUMBER SAVRX 13
C ..... SAVRX 14
C SUBPROGRAMS NEEDED SAVRX 15
C   NAME DESCRIPTION SAVRX 16
C   FILFFT FAST FOURIER TRANSFORM FILTER SAVRX 17
C ..... SAVRX 18
C RECORD OF MODIFICATIONS SAVRX 19
C   BASED ON OLD VERSION 8. SAVRX 20
C ..... SAVRX 21
C   ?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS? SAVRX 22
C   05/04/83 RAMESH THIS PART AND COMMENTS SAVRX 23
C   03NOV83 RAMESH COMPLETELY NEW FOR POT TEMP FILTER SAVRX 24
C ..... SAVRX 25
C REMARKS: SAVRX 26
C   ( 1 ) ?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.? SAVRX 27
C ..... SAVRX 28
C M / A - C O M S I G M A D A T A I N C . N A S A - G S F C SAVRX 29
C ..... SAVRX 30
C ..... SAVRX 31
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD SAVRX 32
C ..... SAVRX 33
00002 COMMON /CCNTRL/ CC0 SAVRX 34
00003 COMMON /CCNTRL/ ADATE SAVRX 35
00004 COMMON /CCNTRL/ ATIME SAVRX 36
00005 COMMON /CCNTRL/ JIC SAVRX 37
00006 COMMON /CCNTRL/ JOB SAVRX 38
00007 COMMON /CCNTRL/ CCSP06 SAVRX 39
00008 COMMON /CCNTRL/ CCSP07 SAVRX 40
00009 COMMON /CCNTRL/ CCSP08 SAVRX 41
00010 COMMON /CCNTRL/ VER SAVRX 42
00011 COMMON /CCNTRL/ XLABEL (10) SAVRX 43
00012 COMMON /CCNTRL/ CQS (30) SAVRX 44
00013 COMMON /CCNTRL/ CQU (10) SAVRX 45
C ..... SAVRX 46
00014 EQUIVALENCE (CC0,CC(1)) SAVRX 47
00015 CHARACTER*8 CC0, CC(200) SAVRX 48
00016 CHARACTER*8 ADATE SAVRX 49
00017 CHARACTER*8 ATIME SAVRX 50
00018 CHARACTER*8 JIC SAVRX 51
00019 CHARACTER*8 JOB SAVRX 52
00020 CHARACTER*8 CCSP06 SAVRX 53
00021 CHARACTER*8 CCSP07 SAVRX 54
00022 CHARACTER*8 CCSP08 SAVRX 55
00023 CHARACTER*8 VER SAVRX 56
00024 CHARACTER*8 XLABEL SAVRX 57
C ..... SAVRX 58
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD SAVRX 59
C ..... SAVRX 60
00025 COMMON /ICNTRL/ IC0 SAVRX 61
00026 COMMON /ICNTRL/ IM SAVRX 62
00027 COMMON /ICNTRL/ IMD2 SAVRX 63
00028 COMMON /ICNTRL/ IMD2P1 SAVRX 64
00029 COMMON /ICNTRL/ NDRSW SAVRX 65
00030 COMMON /ICNTRL/ JM SAVRX 66
00031 COMMON /ICNTRL/ JMD2 SAVRX 67
00032 COMMON /ICNTRL/ JMT2 SAVRX 68
00033 COMMON /ICNTRL/ JNP SAVRX 69
00034 COMMON /ICNTRL/ JO4 SAVRX 70
00035 COMMON /ICNTRL/ JO8 SAVRX 71

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00036	COMMON /ICNTRL/ JSP	SCNTRL 43
00037	COMMON /ICNTRL/ KLIALB	SCNTRL 44
00038	COMMON /ICNTRL/ KLIGW	SCNTRL 45
00039	COMMON /ICNTRL/ KLISST	SCNTRL 46
00040	COMMON /ICNTRL/ KS	SCNTRL 47
00041	COMMON /ICNTRL/ KU	SCNTRL 48
00042	COMMON /ICNTRL/ LOG8R	SCNTRL 49
00043	COMMON /ICNTRL/ MATIN	SCNTRL 50
00044	COMMON /ICNTRL/ MATSNX	SCNTRL 51
00045	COMMON /ICNTRL/ MATSUN	SCNTRL 52
00046	COMMON /ICNTRL/ MLF (12)	SCNTRL 53
00047	COMMON /ICNTRL/ MROD	SCNTRL 54
00048	COMMON /ICNTRL/ NKRSH	SCNTRL 55
00049	COMMON /ICNTRL/ MSM	SCNTRL 56
00050	COMMON /ICNTRL/ NB	SCNTRL 57
00051	COMMON /ICNTRL/ ND	SCNTRL 58
00052	COMMON /ICNTRL/ NDALT	SCNTRL 59
00053	COMMON /ICNTRL/ NDAY	SCNTRL 60
00054	COMMON /ICNTRL/ NDOUT	SCNTRL 61
00055	COMMON /ICNTRL/ NOPHY	SCNTRL 62
00056	COMMON /ICNTRL/ NDSHF	SCNTRL 63
00057	COMMON /ICNTRL/ NDT	SCNTRL 64
00058	COMMON /ICNTRL/ NHMS	SCNTRL 65
00059	COMMON /ICNTRL/ NHMSE	SCNTRL 66
00060	COMMON /ICNTRL/ NHMSO	SCNTRL 67
00061	COMMON /ICNTRL/ NLAY	SCNTRL 68
00062	COMMON /ICNTRL/ NLAYM1	SCNTRL 69
00063	COMMON /ICNTRL/ NLAYP1	SCNTRL 70
00064	COMMON /ICNTRL/ NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
C		SCNTRL 84
00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 85
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 86
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 87
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 88
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 89
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 91
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 92
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 93
00086	EQUIVALENCE (IICLOUD ,IQS(10))	SCNTRL 94
C		SCNTRL 95
00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 96
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 97
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 98
C		SCNTRL 99
00090	EQUIVALENCE (ICO,IC(1))	SCNTRL 100
00091	INTEGER ICO, IC(200)	SCNTRL 101
C		SCNTRL 102
C LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD		SCNTRL 103
C =====		SCNTRL 104
00092	COMMON /LCNTRL/ LCO	SCNTRL 105
00093	COMMON /LCNTRL/ QALT	SCNTRL 106
00094	COMMON /LCNTRL/ QBEG	SCNTRL 107
00095	COMMON /LCNTRL/ QDAY	SCNTRL 108
00096	COMMON /LCNTRL/ QEND	SCNTRL 109
00097	COMMON /LCNTRL/ QOUT	SCNTRL 110
00098	COMMON /LCNTRL/ QPHY	SCNTRL 111
00099	COMMON /LCNTRL/ QSHF	SCNTRL 112
00100	COMMON /LCNTRL/ SN2FLG	SCNTRL 113

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00101      COMMON /LCNTRL/ QRSW
00102      COMMON /LCNTRL/ QRSW
00103      COMMON /LCNTRL/ LQS(30)
00104      COMMON /LCNTRL/ LQU(10)

C
00105      EQUIVALENCE      (LTMIN      ,LQS( 1))
00106      EQUIVALENCE      (LTMAX      ,LQS( 2))
00107      EQUIVALENCE      (LPREACC    ,LQS( 3))
00108      EQUIVALENCE      (LPRECON    ,LQS( 4))
00109      EQUIVALENCE      (LHFLUX     ,LQS( 5))
00110      EQUIVALENCE      (LEFLUX     ,LQS( 6))
00111      EQUIVALENCE      (LFUSION    ,LQS( 7))
00112      EQUIVALENCE      (LRADSWG    ,LQS( 8))
00113      EQUIVALENCE      (LRADLWG    ,LQS( 9))
00114      EQUIVALENCE      (LICLOUD    ,LQS(10))

C
00115      EQUIVALENCE      (LOMEGA     ,LQU( 1))
00116      EQUIVALENCE      (LDIABAT    ,LQU( 2))
00117      EQUIVALENCE      (LRAOSW     ,LQU( 3))

C
00118      LOGICAL          QALT
00119      LOGICAL          QBEG
00120      LOGICAL          QDAY
00121      LOGICAL          QEND
00122      LOGICAL          QOUT
00123      LOGICAL          QPHY
00124      LOGICAL          QSHF
00125      LOGICAL          SN2FLG
00126      LOGICAL          QRSW
00127      LOGICAL          QRSW

C
00128      LOGICAL          LQS
00129      LOGICAL          LQU
00130      LOGICAL          LTMIN
00131      LOGICAL          LTMAX
00132      LOGICAL          LPREACC
00133      LOGICAL          LPRECON
00134      LOGICAL          LHFLUX
00135      LOGICAL          LEFLUX
00136      LOGICAL          LFUSION
00137      LOGICAL          LRADSWG
00138      LOGICAL          LRADLWG
00139      LOGICAL          LICLOUD

C
00140      LOGICAL          LOMEGA
00141      LOGICAL          LDIABAT
00142      LOGICAL          LRAOSW

C
00143      EQUIVALENCE      (LC0,LC(1))
00144      LOGICAL          LC0, LC(200)

C
C
C
REAL MODEL PARAMETERS SAVED ON HISTORY RECORD
=====
00145      COMMON /RCNTRL/ RCD
00146      COMMON /RCNTRL/ APHEL
00147      COMMON /RCNTRL/ BETA
00148      COMMON /RCNTRL/ COSD
00149      COMMON /RCNTRL/ CP
00150      COMMON /RCNTRL/ DAYSPY
00151      COMMON /RCNTRL/ DEC
00152      COMMON /RCNTRL/ DECMAX
00153      COMMON /RCNTRL/ DIST
00154      COMMON /RCNTRL/ DLAT
00155      COMMON /RCNTRL/ DLON
00156      COMMON /RCNTRL/ DT
00157      COMMON /RCNTRL/ ECGN
00158      COMMON /RCNTRL/ GNU1
00159      COMMON /RCNTRL/ GNU2
00160      COMMON /RCNTRL/ GRAV
00161      COMMON /RCNTRL/ OMEGA2
00162      COMMON /RCNTRL/ PI

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SCNTRL 114
SCNTRL 115
SCNTRL 116
SCNTRL 117
SCNTRL 118
SCNTRL 119
SCNTRL 120
SCNTRL 121
SCNTRL 122
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ORIGINAL FILE
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00163	COMMON /RCNTRL/ PI180	SCNTRL 185
00164	COMMON /RCNTRL/ PI2	SCNTRL 186
00165	COMMON /RCNTRL/ PSTD	SCNTRL 187
00166	COMMON /RCNTRL/ PIMEAN	SCNTRL 188
00167	COMMON /RCNTRL/ PSMAX	SCNTRL 189
00168	COMMON /RCNTRL/ PSMIN	SCNTRL 190
00169	COMMON /RCNTRL/ PTOP	SCNTRL 191
00170	COMMON /RCNTRL/ RADE	SCNTRL 192
00171	COMMON /RCNTRL/ RGAS	SCNTRL 193
00172	COMMON /RCNTRL/ ROCP	SCNTRL 194
00173	COMMON /RCNTRL/ RSDIST	SCNTRL 195
00174	COMMON /RCNTRL/ SDAY	SCNTRL 196
00175	COMMON /RCNTRL/ SEASON	SCNTRL 197
00176	COMMON /RCNTRL/ SIGE (25)	SCNTRL 198
00177	COMMON /RCNTRL/ SIND	SCNTRL 199
00178	COMMON /RCNTRL/ SOLS	SCNTRL 200
00179	COMMON /RCNTRL/ TSTD	SCNTRL 201
00180	COMMON /RCNTRL/ PLEVS (25)	SCNTRL 202
00181	COMMON /RCNTRL/ HEATW	SCNTRL 203
00182	COMMON /RCNTRL/ HEATI	SCNTRL 204
00183	COMMON /RCNTRL/ EPS	SCNTRL 205
00184	COMMON /RCNTRL/ EPSFAC	SCNTRL 206
00185	COMMON /RCNTRL/ CALTOJ	SCNTRL 207
00186	COMMON /RCNTRL/ PZERO	SCNTRL 208
C		SCNTRL 209
00187	EQUIVALENCE (RCO,RC(1))	SCNTRL 210
00188	REAL RCO, RC(200)	SCNTRL 211
C		SCNTRL 212
C	INTEGER MODEL CONSTANTS	SCNTRL 213
C	=====	SCNTRL 214
00189	COMMON /IDPARM/ IJUMP (46)	SCNTRL 215
00190	COMMON /IDPARM/ IDSP02	SCNTRL 216
00191	COMMON /IDPARM/ INDEX (72)	SCNTRL 217
00192	COMMON /IDPARM/ IROD	SCNTRL 218
00193	COMMON /IDPARM/ JC (46)	SCNTRL 219
00194	COMMON /IDPARM/ JE (2)	SCNTRL 220
00195	COMMON /IDPARM/ JP (2,2)	SCNTRL 221
00196	COMMON /IDPARM/ KSTEP	SCNTRL 222
00197	COMMON /IDPARM/ MJ (46)	SCNTRL 223
00198	COMMON /IDPARM/ NHMS1	SCNTRL 224
00199	COMMON /IDPARM/ NYMD1	SCNTRL 225
C		SCNTRL 226
C	LOGICAL MODEL CONSTANTS	SCNTRL 227
C	=====	SCNTRL 228
00200	COMMON /LDPARM/ FILTER (46)	SCNTRL 229
00201	COMMON /LDPARM/ ITAPE	SCNTRL 230
00202	COMMON /LDPARM/ START	SCNTRL 231
C		SCNTRL 232
00203	LOGICAL FILTER	SCNTRL 233
00204	LOGICAL ITAPE	SCNTRL 234
00205	LOGICAL START	SCNTRL 235
C		SCNTRL 236
C	REAL MODEL CONSTANTS	SCNTRL 237
C	=====	SCNTRL 238
00206	COMMON /RDPARM/ ADLDP	SCNTRL 239
00207	COMMON /RDPARM/ CON1	SCNTRL 240
00208	COMMON /RDPARM/ CON1DT	SCNTRL 241
00209	COMMON /RDPARM/ CON2	SCNTRL 242
00210	COMMON /RDPARM/ CON2DT	SCNTRL 243
00211	COMMON /RDPARM/ CON3	SCNTRL 244
00212	COMMON /RDPARM/ CON3DT	SCNTRL 245
00213	COMMON /RDPARM/ CON4	SCNTRL 246
00214	COMMON /RDPARM/ CON4DT	SCNTRL 247
00215	COMMON /RDPARM/ CON5	SCNTRL 248
00216	COMMON /RDPARM/ COSL (46)	SCNTRL 249
00217	COMMON /RDPARM/ COSLON (72)	SCNTRL 250
00218	COMMON /RDPARM/ CPD2	SCNTRL 251
00219	COMMON /RDPARM/ DXP (46)	SCNTRL 252
00220	COMMON /RDPARM/ DXYP (46)	SCNTRL 253
00221	COMMON /RDPARM/ DYP (46)	SCNTRL 254
00222	COMMON /RDPARM/ FCORLS (46)	SCNTRL 255

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00223 COMMON /RDPARM/ F1DT
00224 COMMON /RDPARM/ F2DT
00225 COMMON /RDPARM/ H1DT
00226 COMMON /RDPARM/ H2DT
00227 COMMON /RDPARM/ PKSTD
00228 COMMON /RDPARM/ PKTOP
00229 COMMON /RDPARM/ RLAT (46)
00230 COMMON /RDPARM/ RLATD (46)
00231 COMMON /RDPARM/ ROC PDT
00232 COMMON /RDPARM/ ROC PP1
00233 COMMON /RDPARM/ SGNP (2)
00234 COMMON /RDPARM/ SINL (46)
00235 COMMON /RDPARM/ SINLON (72)
00236 COMMON /RDPARM/ THSTD
00237 COMMON /RDPARM/ THSTD2
00238 COMMON /RDPARM/ WSAVE (159)
00239 COMMON /RDPARM/ DSIG (9)
00240 COMMON /RDPARM/ SIG (9)

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C
C * * *
C GLOBAL MODEL SURFACE FIELDS
00241 COMMON /QANDQT/ QS(72,19,46)

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C
00242 DIMENSION PHIS(1368,1)
00243 DIMENSION SMTH(1368,23)
00244 DIMENSION ALBEDO(1368,1)
00245 DIMENSION GT(1368,1)
00246 DIMENSION GW(1368,1)
00247 DIMENSION TS(1368,1)
00248 DIMENSION SHS(1368,1)
00249 DIMENSION P(72,19,1)
00250 DIMENSION TMIN(1368,1)
00251 DIMENSION TMAX(1368,1)
00252 DIMENSION PREACC(1368,1)
00253 DIMENSION PRECON(1368,1)
00254 DIMENSION HFLUX(1368,1)
00255 DIMENSION EFLUX(1368,1)
00256 DIMENSION FUSION(1368,1)
00257 DIMENSION RADSWG(1368,1)
00258 DIMENSION RADLWG(1368,1)
00259 DIMENSION ICLOUD(1368,1)

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C
00260 EQUIVALENCE (QS(1,1,1),PHIS(1,1))
00261 EQUIVALENCE (QS(1,2,1),SMTH(1,1))
00262 EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))
00263 EQUIVALENCE (QS(1,4,1),GT(1,1))
00264 EQUIVALENCE (QS(1,5,1),GW(1,1))
00265 EQUIVALENCE (QS(1,6,1),TS(1,1))
00266 EQUIVALENCE (QS(1,7,1),SHS(1,1))
00267 EQUIVALENCE (QS(1,8,1),P(1,1,1))
00268 EQUIVALENCE (QS(1,10,1),TMIN(1,1))
00269 EQUIVALENCE (QS(1,11,1),TMAX(1,1))
00270 EQUIVALENCE (QS(1,12,1),PREACC(1,1))
00271 EQUIVALENCE (QS(1,13,1),PRECON(1,1))
00272 EQUIVALENCE (QS(1,14,1),HFLUX(1,1))
00273 EQUIVALENCE (QS(1,15,1),EFLUX(1,1))
00274 EQUIVALENCE (QS(1,16,1),FUSION(1,1))
00275 EQUIVALENCE (QS(1,17,1),RADSWG(1,1))
00276 EQUIVALENCE (QS(1,18,1),RADLWG(1,1))
00277 EQUIVALENCE (QS(1,19,1),ICLOUD(1,1))

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C
C * * *
C GLOBAL MODEL UPPER-AIR FIELDS
00278 COMMON /QANDQT/ QU(72,9,14,46)

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C
00279 DIMENSION U(72,9,14,1)
00280 DIMENSION V(72,9,14,1)
00281 DIMENSION T(72,9,14,1)
00282 DIMENSION SH(72,9,14,1)
00283 DIMENSION PHI(72,9,14,1)
00284 DIMENSION OMEGA(72,126,1)
00285 DIMENSION DIABAT(72,126,1)

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C ***** FILTER SEA LEVEL PRESSURE ***** SAVRX 79
C ***** SAVRX 80
C ***** SAVRX 81
C ***** SAVRX 82
00319 DO 30 I=1,IM SAVRX 83
00320 CATA(I) = SLEXP(TS(I,J),PHIS(I,J)) SAVRX 84
00321 P(I,NB,J) = (P(I,NB,J) + PTOP)*CATA(I) SAVRX 85
00322 30 CONTINUE SAVRX 86
00323 CALL FILFFT (P(I,NB,J),DATA,IM,WSAVE) SAVRX 87
00324 DO 40 I=1,IM SAVRX 88
00325 P(I,NB,J) = P(I,NB,J)/CATA(I) - PTOP SAVRX 89
00326 40 CONTINUE SAVRX 90
C ***** SAVRX 91
C ***** SAVRX 92
C ***** TEMPERATURE. ***** SAVRX 93
C ***** SAVRX 94
C ***** SAVRX 95
C ***** SAVRX 96
00327 DO 60 L=1,NLAY SAVRX 97
00328 DO 60 I=1,IM SAVRX 98
00329 PK(I,L) = P(I,NB,J)*SIG(L) + PTOP SAVRX 99
00330 PK(I,L) = EXPBYK(PK(I,L)) SAVRX 100
00331 T(I,L,NB,J) = PT(I,L)*PK(I,L) SAVRX 101
00332 60 CONTINUE SAVRX 102
00333 RETURN SAVRX 103
00334 END SAVRX 104
SAVRX 105
```

STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10	306	303
10000	301	
20	318	313
30	322	319
40	326	324
50	312	307 308
60	332	327 328

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

ADATE	CCNTRL	CHAR*8	SIMPLE	3	16														
ADLDP	RDPARM	REAL	SIMPLE	206															
ALBEDO	QANDQT	REAL	ARRAY	244	262														
APHEL	RCNTRL	REAL	SIMPLE	146															
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17														
AVRX			SUBROUTINE	1															
BETA	RCNTRL	REAL	SIMPLE	147	300														
CALTOJ	RCNTRL	REAL	SIMPLE	185															
CARD	//	CHAR*8	ARRAY	297	299														
CATA	//	REAL	ARRAY	297	320/S	321	325												
CC	CCNTRL	CHAR*8	ARRAY	14	15														
CC0	CCNTRL	CHAR*8	SIMPLE	2	14	15													
CCNTRL		REAL	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12					
				13															
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20														
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21														
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22														
CON1	RDPARM	REAL	SIMPLE	207															
CON1DT	RDPARM	REAL	SIMPLE	208															
CON2	RDPARM	REAL	SIMPLE	209															
CON2DT	RDPARM	REAL	SIMPLE	210															
CON3	RDPARM	REAL	SIMPLE	211															
CON3DT	RDPARM	REAL	SIMPLE	212															
CON4	RDPARM	REAL	SIMPLE	213															
CON4DT	RDPARM	REAL	SIMPLE	214															
CON5	RDPARM	REAL	SIMPLE	215															
COSD	RCNTRL	REAL	SIMPLE	148															
COSL	RDPARM	REAL	ARRAY	216															
COSLON	RDPARM	REAL	ARRAY	217															

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ITAPE	LDPARM	LOGICAL	SIMPLE	201	204														
ITMAX	ICNTRL	INTEGER	UNKNOWN	78															
ITMIN	ICNTRL	INTEGER	UNKNOWN	77															
J		INTEGER	SIMPLE	1	304	305	309	311	314	315	317	320	320	321					
JC	IDPARM	INTEGER	ARRAY	321	323	325	325	329	331										
JE	IDPARM	INTEGER	ARRAY	193															
JIC	CCNTRL	CHAR*8	SIMPLE	194	18														
JM	ICNTRL	INTEGER	SIMPLE	5															
JMD2	ICNTRL	INTEGER	SIMPLE	30															
JMT2	ICNTRL	INTEGER	SIMPLE	31															
JNP	ICNTRL	INTEGER	SIMPLE	32															
JO4	ICNTRL	INTEGER	SIMPLE	33															
JO4	ICNTRL	INTEGER	SIMPLE	34															
JO8	ICNTRL	INTEGER	SIMPLE	35															
JO8	CCNTRL	CHAR*8	SIMPLE	6	19														
JP	IDPARM	INTEGER	ARRAY	195															
JSP	ICNTRL	INTEGER	SIMPLE	36															
KLIALB	ICNTRL	INTEGER	SIMPLE	37															
KLIGW	ICNTRL	INTEGER	SIMPLE	38															
KLISST	ICNTRL	INTEGER	SIMPLE	39															
KS	ICNTRL	INTEGER	SIMPLE	40															
KSTEP	IDPARM	INTEGER	SIMPLE	196															
KU	ICNTRL	INTEGER	SIMPLE	41															
L		INTEGER	SIMPLE	307/C	309	309	310	310	311	311	311	313/C	314	315					
LC	LCNTRL	LOGICAL	ARRAY	316	317	327/C	329	329	330	330	331	331	331						
LC0	LCNTRL	LOGICAL	SIMPLE	143	144														
LCNTRL		INTEGER	UNKNOWN	92	143	144													
				92	93	94	95	96	97	98	99	100	101	102					
				103	104														
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	116	141														
LDPARM		INTEGER	UNKNOWN	200	201	202													
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	110	135														
LFUSION	LCNTRL	LOGICAL	UNKNOWN	111	136														
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	109	134														
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	139														
LOGBR	ICNTRL	INTEGER	SIMPLE	42															
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	115	140														
LPREACC	LCNTRL	LOGICAL	UNKNOWN	107	132														
LPRECON	LCNTRL	LOGICAL	UNKNOWN	108	133														
LOS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114					
				128															
LQU	LCNTRL	LOGICAL	ARRAY	104	115	116	117	129											
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138														
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	142														
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	112	137														
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131														
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130														
MATIN	ICNTRL	INTEGER	SIMPLE	43															
MATSNX	ICNTRL	INTEGER	SIMPLE	44															
MATSUN	ICNTRL	INTEGER	SIMPLE	45															
MJ	IDPARM	INTEGER	ARRAY	197															
MLF	ICNTRL	INTEGER	ARRAY	46															
MROD	ICNTRL	INTEGER	SIMPLE	47															
MSM	ICNTRL	INTEGER	SIMPLE	49															
NB	ICNTRL	INTEGER	SIMPLE	50	309	311	314	315	317	321	321	323	325	325					
				329	331														
ND	ICNTRL	INTEGER	SIMPLE	51															
NDALT	ICNTRL	INTEGER	SIMPLE	52															
NDAY	ICNTRL	INTEGER	SIMPLE	53															
NDHOG	ICNTRL	INTEGER	SIMPLE	74															
NDOUT	ICNTRL	INTEGER	SIMPLE	54															
NDRHY	ICNTRL	INTEGER	SIMPLE	55															
NDRSW	ICNTRL	INTEGER	SIMPLE	29															
NDSHF	ICNTRL	INTEGER	SIMPLE	56															
NDT	ICNTRL	INTEGER	SIMPLE	57															
NHMS	ICNTRL	INTEGER	SIMPLE	58															
NHMS0	ICNTRL	INTEGER	SIMPLE	60															
NHMS1	IDPARM	INTEGER	SIMPLE	198															
NHMS2	ICNTRL	INTEGER	SIMPLE	59															

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SEASON	RCNTRL	REAL	SIMPLE	175					
SGNP	RDPARM	REAL	ARRAY	233					
SH	QANDQT	REAL	ARRAY	282	291	317			
SHS	QANDQT	REAL	ARRAY	248	266				
SIG	RDPARM	REAL	ARRAY	240	309	329			
SIGE	RCNTRL	REAL	ARRAY	176					
SIND	RCNTRL	REAL	SIMPLE	177					
SINL	RDPARM	REAL	ARRAY	234					
SINLON	RDPARM	REAL	ARRAY	235					
SMTH	QANDQT	REAL	ARRAY	243	261	304	305		
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125				
SOLS	RCNTRL	REAL	SIMPLE	178					
START	LDPARM	LOGICAL	SIMPLE	202	205				
T	QANDQT	REAL	ARRAY	281	290	311	331/S		
THSTD	RDPARM	REAL	SIMPLE	236					
THSTD2	RDPARM	REAL	SIMPLE	237					
TMAX	QANDQT	REAL	ARRAY	251	269				
TMIN	QANDQT	REAL	ARRAY	250	268				
TS	QANDQT	REAL	ARRAY	247	265	300	300	320	
TSTD	RCNTRL	REAL	SIMPLE	179					
U	QANDQT	REAL	ARRAY	279	288	314			
V	QANDQT	REAL	ARRAY	280	289	315			
VER	CCNTRL	CHAR*8	SIMPLE	10	23				
WSAVE	RDPARM	REAL	ARRAY	238	314	315	316	317	323
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24				

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D-STMT	FN DEF.	A-ARGLIST
EXP	REAL	INTRINSIC	300			
EXPBYK	REAL	FUNCTION	310	330		
FILFFT		SUBROUTINE	314	315	316	317 323
SLEXP	REAL	STAT FUNC	300/S	320		

```

00001      BLOCK DATA
C
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00002      COMMON /CCNTRL/ CCO
00003      COMMON /CCNTRL/ ADATE
00004      COMMON /CCNTRL/ ATIME
00005      COMMON /CCNTRL/ JIC
00006      COMMON /CCNTRL/ JOB
00007      COMMON /CCNTRL/ CCSF06
00008      COMMON /CCNTRL/ CCSF07
00009      COMMON /CCNTRL/ CCSF08
00010      COMMON /CCNTRL/ VER
00011      COMMON /CCNTRL/ XLABEL (10)
00012      COMMON /CCNTRL/ CQS (30)
00013      COMMON /CCNTRL/ CQU (10)
C
00014      EQUIVALENCE      (CC0,CC(1))
00015      CHARACTER*8      CC0, CC(200)
00016      CHARACTER*8      ADATE
00017      CHARACTER*8      ATIME
00018      CHARACTER*8      JIC
00019      CHARACTER*8      JOB
00020      CHARACTER*8      CCSF06
00021      CHARACTER*8      CCSF07
00022      CHARACTER*8      CCSF08
00023      CHARACTER*8      VER
00024      CHARACTER*8      XLABEL
C
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00025      COMMON /ICNTRL/ ICO
00026      COMMON /ICNTRL/ IM
00027      COMMON /ICNTRL/ IMD2
00028      COMMON /ICNTRL/ IMD2P1
00029      COMMON /ICNTRL/ NDRSW
00030      COMMON /ICNTRL/ JM
00031      COMMON /ICNTRL/ JMD2
00032      COMMON /ICNTRL/ JMT2
00033      COMMON /ICNTRL/ JNP
00034      COMMON /ICNTRL/ JO4
00035      COMMON /ICNTRL/ JOB
00036      COMMON /ICNTRL/ JSP
00037      COMMON /ICNTRL/ KLIALB
00038      COMMON /ICNTRL/ KLIW
00039      COMMON /ICNTRL/ KLISST
00040      COMMON /ICNTRL/ KS
00041      COMMON /ICNTRL/ KU
00042      COMMON /ICNTRL/ LOGBR
00043      COMMON /ICNTRL/ MATIN
00044      COMMON /ICNTRL/ MATSNX
00045      COMMON /ICNTRL/ MATSUN
00046      COMMON /ICNTRL/ MLF (12)
00047      COMMON /ICNTRL/ MROD
00048      COMMON /ICNTRL/ NKRSR
00049      COMMON /ICNTRL/ MSM
00050      COMMON /ICNTRL/ NB
00051      COMMON /ICNTRL/ ND
00052      COMMON /ICNTRL/ NDALT
00053      COMMON /ICNTRL/ NDAY
00054      COMMON /ICNTRL/ NDOUT
00055      COMMON /ICNTRL/ NDPHY
00056      COMMON /ICNTRL/ NDSHF
00057      COMMON /ICNTRL/ NDT
00058      COMMON /ICNTRL/ NHMS
00059      COMMON /ICNTRL/ NHMSE
00060      COMMON /ICNTRL/ NHMSO
00061      COMMON /ICNTRL/ NLAY
00062      COMMON /ICNTRL/ NLAYM1
00063      COMMON /ICNTRL/ NLAYP1
00064      COMMON /ICNTRL/ NSDAY

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SBLOCKD 2
SCNTRL 2
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SCNTRL 70
SCNTRL 71

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BLOCK DATA 1

00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
C		SCNTRL 84
00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 85
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 86
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 87
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 88
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 89
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 91
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 92
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 93
00086	EQUIVALENCE (IICLOUD ,IQS(10))	SCNTRL 94
C		SCNTRL 95
00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 96
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 97
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 98
C		SCNTRL 99
00090	EQUIVALENCE (ICO ,IC(1))	SCNTRL 100
00091	INTEGER ICO , IC(200)	SCNTRL 101
C		SCNTRL 102
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL 103
C	=====	SCNTRL 104
00092	COMMON /LCNTRL/ LCO	SCNTRL 105
00093	COMMON /LCNTRL/ QALT	SCNTRL 106
00094	COMMON /LCNTRL/ QBEG	SCNTRL 107
00095	COMMON /LCNTRL/ QDAY	SCNTRL 108
00096	COMMON /LCNTRL/ QEND	SCNTRL 109
00097	COMMON /LCNTRL/ QOUT	SCNTRL 110
00098	COMMON /LCNTRL/ QPHY	SCNTRL 111
00099	COMMON /LCNTRL/ QSHF	SCNTRL 112
00100	COMMON /LCNTRL/ SN2FLG	SCNTRL 113
00101	COMMON /LCNTRL/ QRSW	SCNTRL 114
00102	COMMON /LCNTRL/ QRSW	SCNTRL 115
00103	COMMON /LCNTRL/ LQS(30)	SCNTRL 116
00104	COMMON /LCNTRL/ LQU(10)	SCNTRL 117
C		SCNTRL 118
00105	EQUIVALENCE (LTMIN ,LQS(1))	SCNTRL 119
00106	EQUIVALENCE (LTMAX ,LQS(2))	SCNTRL 120
00107	EQUIVALENCE (LPREACC ,LQS(3))	SCNTRL 121
00108	EQUIVALENCE (LPRECON ,LQS(4))	SCNTRL 122
00109	EQUIVALENCE (LHFLUX ,LQS(5))	SCNTRL 123
00110	EQUIVALENCE (LEFLUX ,LQS(6))	SCNTRL 124
00111	EQUIVALENCE (LFUSION ,LQS(7))	SCNTRL 125
00112	EQUIVALENCE (LRADSWG ,LQS(8))	SCNTRL 126
00113	EQUIVALENCE (LRADLWG ,LQS(9))	SCNTRL 127
00114	EQUIVALENCE (LIICLOUD ,LQS(10))	SCNTRL 128
C		SCNTRL 129
00115	EQUIVALENCE (LOMEGA ,LQU(1))	SCNTRL 130
00116	EQUIVALENCE (LDIABAT ,LQU(2))	SCNTRL 131
00117	EQUIVALENCE (LRADSW ,LQU(3))	SCNTRL 132
C		SCNTRL 133
00118	LOGICAL QALT	SCNTRL 134
00119	LOGICAL QBEG	SCNTRL 135
00120	LOGICAL QDAY	SCNTRL 136
00121	LOGICAL QEND	SCNTRL 137
00122	LOGICAL QOUT	SCNTRL 138
00123	LOGICAL QPHY	SCNTRL 139
00124	LOGICAL QSHF	SCNTRL 140
00125	LOGICAL SN2FLG	SCNTRL 141
00126	LOGICAL QRSW	SCNTRL 142

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00127      LOGICAL      QRSH
C
00128      LOGICAL      LQS
00129      LOGICAL      LQU
00130      LOGICAL      LTMIN
00131      LOGICAL      LTMAX
00132      LOGICAL      LPREACC
00133      LOGICAL      LPRECON
00134      LOGICAL      LHFLUX
00135      LOGICAL      LEFLUX
00136      LOGICAL      LFUSION
00137      LOGICAL      LRADSWG
00138      LOGICAL      LRADLWG
00139      LOGICAL      LICLOUD

00140      LOGICAL      LOMEGA
00141      LOGICAL      LDIABAT
00142      LOGICAL      LRADSW

C
00143      EQUIVALENCE      (LC0,LC(1))
00144      LOGICAL      LC0, LC(200)

C
C REAL MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00145      COMMON /RCNTRL/ RCO
00146      COMMON /RCNTRL/ APHEL
00147      COMMON /RCNTRL/ BETA
00148      COMMON /RCNTRL/ COSD
00149      COMMON /RCNTRL/ CP
00150      COMMON /RCNTRL/ DAYSPY
00151      COMMON /RCNTRL/ DEC
00152      COMMON /RCNTRL/ DECMAX
00153      COMMON /RCNTRL/ DIST
00154      COMMON /RCNTRL/ DLAT
00155      COMMON /RCNTRL/ DLON
00156      COMMON /RCNTRL/ DT
00157      COMMON /RCNTRL/ ECCN
00158      COMMON /RCNTRL/ GNU1
00159      COMMON /RCNTRL/ GNU2
00160      COMMON /RCNTRL/ GRAV
00161      COMMON /RCNTRL/ OMEGA2
00162      COMMON /RCNTRL/ PI
00163      COMMON /RCNTRL/ PI180
00164      COMMON /RCNTRL/ PI2
00165      COMMON /RCNTRL/ PSTD
00166      COMMON /RCNTRL/ PIMEAN
00167      COMMON /RCNTRL/ PSMAX
00168      COMMON /RCNTRL/ PSMIN
00169      COMMON /RCNTRL/ PTOP
00170      COMMON /RCNTRL/ RADE
00171      COMMON /RCNTRL/ RGAS
00172      COMMON /RCNTRL/ ROCP
00173      COMMON /RCNTRL/ RSDIST
00174      COMMON /RCNTRL/ SDAY
00175      COMMON /RCNTRL/ SEASON
00176      COMMON /RCNTRL/ SIGE      (25)
00177      COMMON /RCNTRL/ SIND
00178      COMMON /RCNTRL/ SOLS
00179      COMMON /RCNTRL/ TSTD
00180      COMMON /RCNTRL/ PLEVS      (25)
00181      COMMON /RCNTRL/ HEATW
00182      COMMON /RCNTRL/ HEATI
00183      COMMON /RCNTRL/ EPS
00184      COMMON /RCNTRL/ EPSFAC
00185      COMMON /RCNTRL/ CALTOJ
00186      COMMON /RCNTRL/ PZERO

C
00187      EQUIVALENCE      (RC0,RC(1))
00188      REAL      RC0, RC(200)

C
C INTEGER MODEL CONSTANTS

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SCNTRL 143
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00189	C	=====			SCNTRL 214
00190		COMMON /IDPARM/ IJUMP	(46)		SCNTRL 215
00191		COMMON /IDPARM/ IDSP02			SCNTRL 216
00192		COMMON /IDPARM/ INDEX	(72)		SCNTRL 217
00193		COMMON /IDPARM/ IROD			SCNTRL 218
00194		COMMON /IDPARM/ JC	(46)		SCNTRL 219
00195		COMMON /IDPARM/ JE	(2)		SCNTRL 220
00196		COMMON /IDPARM/ JP	(2,2)		SCNTRL 221
00197		COMMON /IDPARM/ KSTEP			SCNTRL 222
00198		COMMON /IDPARM/ MJ	(46)		SCNTRL 223
00199		COMMON /IDPARM/ NHMS1			SCNTRL 224
		COMMON /IDPARM/ NYMD1			SCNTRL 225
	C				SCNTRL 226
	C	LOGICAL MODEL CONSTANTS			SCNTRL 227
	C	=====			SCNTRL 228
00200		COMMON /LDPARM/ FILTER	(46)		SCNTRL 229
00201		COMMON /LDPARM/ ITAPE			SCNTRL 230
00202		COMMON /LDPARM/ START			SCNTRL 231
	C				SCNTRL 232
00203		LOGICAL	FILTER		SCNTRL 233
00204		LOGICAL	ITAPE		SCNTRL 234
00205		LOGICAL	START		SCNTRL 235
	C				SCNTRL 236
	C	REAL MODEL CONSTANTS			SCNTRL 237
	C	=====			SCNTRL 238
00206		COMMON /RDPARM/ ADLDP			SCNTRL 239
00207		COMMON /RDPARM/ CON1			SCNTRL 240
00208		COMMON /RDPARM/ CON1DT			SCNTRL 241
00209		COMMON /RDPARM/ CON2			SCNTRL 242
00210		COMMON /RDPARM/ CON2DT			SCNTRL 243
00211		COMMON /RDPARM/ CON3			SCNTRL 244
00212		COMMON /RDPARM/ CON3DT			SCNTRL 245
00213		COMMON /RDPARM/ CON4			SCNTRL 246
00214		COMMON /RDPARM/ CON4DT			SCNTRL 247
00215		COMMON /RDPARM/ CON5			SCNTRL 248
00216		COMMON /RDPARM/ COSL	(46)		SCNTRL 249
00217		COMMON /RDPARM/ COSLON	(72)		SCNTRL 250
00218		COMMON /RDPARM/ CPD2			SCNTRL 251
00219		COMMON /RDPARM/ DXF	(46)		SCNTRL 252
00220		COMMON /RDPARM/ DXYP	(46)		SCNTRL 253
00221		COMMON /RDPARM/ DYP	(46)		SCNTRL 254
00222		COMMON /RDPARM/ FCORLS	(46)		SCNTRL 255
00223		COMMON /RDPARM/ F1DT			SCNTRL 256
00224		COMMON /RDPARM/ F2DT			SCNTRL 257
00225		COMMON /RDPARM/ H1DT			SCNTRL 258
00226		COMMON /RDPARM/ H2DT			SCNTRL 259
00227		COMMON /RDPARM/ PKSTD			SCNTRL 260
00228		COMMON /RDPARM/ PKTOP			SCNTRL 261
00229		COMMON /RDPARM/ RLAT	(46)		SCNTRL 262
00230		COMMON /RDPARM/ RLATD	(46)		SCNTRL 263
00231		COMMON /RDPARM/ ROC PDT			SCNTRL 264
00232		COMMON /RDPARM/ ROC PP1			SCNTRL 265
00233		COMMON /RDPARM/ SGNP	(2)		SCNTRL 266
00234		COMMON /RDPARM/ SINL	(46)		SCNTRL 267
00235		COMMON /RDPARM/ SINLON	(72)		SCNTRL 268
00236		COMMON /RDPARM/ THSTD			SCNTRL 269
00237		COMMON /RDPARM/ THSTD2			SCNTRL 270
00238		COMMON /RDPARM/ WSAVE	(159)		SCNTRL 271
00239		COMMON /RDPARM/ DSIG	(9)		SCNTRL 272
00240		COMMON /RDPARM/ SIG	(9)		SCNTRL 273
	C				SCNTRL 274
00241		DATA VER/'GWSGOM00'/			SBLOCKD 4
00242		DATA APHEL/183./			SBLOCKD 5
00243		DATA BETA/.0055/			SBLOCKD 6
00244		DATA CP/1003.5/			SBLOCKD 7
00245		DATA DAYSPY/365./			SBLOCKD 8
00246		DATA ECCN/.0178/			SBLOCKD 9
00247		DATA GRAV/9.81/			SBLOCKD 10
00248		DATA PTOF/10./			SBLOCKD 11
00249		DATA RADE/6375000./			SBLOCKD 12
00250		DATA RGAS/287./			SBLOCKD 13

00251 DATA SDAY,CALTOJ,PZERO/86400.,4.186,1013.25/
 00252 DATA SOLS,HEATW,HEATI,EPS/173.,597.2,680.,.622/

C * * *
 C PHYSICS PARAMETERS AND CONSTANTS

00253 COMMON /CNTRLP/ CDFR
 00254 COMMON /CNTRLP/ CDXL
 00255 COMMON /CNTRLP/ CDXO
 00256 COMMON /CNTRLP/ CLH
 00257 COMMON /CNTRLP/ COE (9)
 00258 COMMON /CNTRLP/ COEF
 00259 COMMON /CNTRLP/ COEFS
 00260 COMMON /CNTRLP/ COSROT
 00261 COMMON /CNTRLP/ CPP
 00262 COMMON /CNTRLP/ CTID
 00263 COMMON /CNTRLP/ CUMDAY
 00264 COMMON /CNTRLP/ CUMRAT
 00265 COMMON /CNTRLP/ C10
 00266 COMMON /CNTRLP/ C100
 00267 COMMON /CNTRLP/ C40
 00268 COMMON /CNTRLP/ DELTA
 00269 COMMON /CNTRLP/ DTC3
 00270 COMMON /CNTRLP/ DTOUT
 00271 COMMON /CNTRLP/ ED
 00272 COMMON /CNTRLP/ EDNM
 00273 COMMON /CNTRLP/ FCOEF
 00274 COMMON /CNTRLP/ FMU
 00275 COMMON /CNTRLP/ FWET
 00276 COMMON /CNTRLP/ GAMFAC
 00277 COMMON /CNTRLP/ GTOPO
 00278 COMMON /CNTRLP/ HICE
 00279 COMMON /CNTRLP/ NDT03
 00280 COMMON /CNTRLP/ NFLW
 00281 COMMON /CNTRLP/ PIM
 00282 COMMON /CNTRLP/ QHOG
 00283 COMMON /CNTRLP/ SHLTOP
 00284 COMMON /CNTRLP/ SINROT
 00285 COMMON /CNTRLP/ SNOWN
 00286 COMMON /CNTRLP/ SNOWS
 00287 COMMON /CNTRLP/ STBO
 00288 COMMON /CNTRLP/ STERP1
 00289 COMMON /CNTRLP/ STERP2
 00290 COMMON /CNTRLP/ TICE
 00291 COMMON /CNTRLP/ TLTOP
 00292 COMMON /CNTRLP/ XDAY
 00293 COMMON /CNTRLP/ ZLNCO
 00294 LOGICAL QHOG

00295 DATA CPP/.24/
 00296 DATA C10/60./
 00297 DATA C40/8./
 00298 DATA C100/100./
 00299 DATA EDNM/2./
 00300 DATA HICE/300./
 00301 DATA STBO/1.171E-7/
 00302 DATA TICE/273.16/
 00303 DATA SHLTOP/.00002/
 00304 DATA TLTOP/220./
 00305 DATA GTOPO/120.1612/
 00306 DATA DELTA/.0001/

C * * *
 C RADIATION AND SOURCE TERM FIELDS

00307 COMMON /RADCOM/ AS(72,9), RE(72,10)
 00308 COMMON /RADCOM/ PL(72,9), PLE(72,10)
 00309 COMMON /RADCOM/ PLK(72,9), PLKE(10)
 00310 COMMON /RADCOM/ TL(72,9), TLE(72,10)
 00311 COMMON /RADCOM/ TG(72), TH(72,9)
 00312 COMMON /RADCOM/ SHL(72,9), SHLE(72,10)
 00313 COMMON /RADCOM/ SHG(72), CLOUD(72,12)
 00314 COMMON /RADCOM/ SHSAT(72,9), GAM(72,9)
 00315 COMMON /RADCOM/ RH(72,9)
 00316 COMMON /RADCOM/ SSS(72,9), SSSE(72,10)

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 SRADCOM 13

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00317 COMMON /RADCOM/ HH(72,8), HHE(72,10) SRADCOM 14
00318 COMMON /RADCOM/ HHS(72,9) SRADCOM 15
00319 COMMON /RADCOM/ CVT(72,9), CVQ(72,9) SRADCOM 16
00320 COMMON /RADCOM/ CXDE(9) SRADCOM 17
00321 COMMON /RADCOM/ SWALE(72,10), SWIL(72,9) SRADCOM 18
00322 COMMON /RADCOM/ AL(72,10) SRADCOM 19
00323 COMMON /RADCOM/ TAUL(72,10), OZALE(72,10) SRADCOM 20
00324 COMMON /RADCOM/ TOPABS(72) SRADCOM 21
00325 COMMON /RADCOM/ RN(9), TN(9), SRS(9), STN(9) SRADCOM 22
00326 COMMON /RADCOM/ TCOND(9), TPENE(9) SRADCOM 23
00327 COMMON /RADCOM/ TLOWL, TMIDL, NLAYOZ SRADCOM 24
00328 COMMON /RADCOM/ FK(5), XK(5), NFK SRADCOM 25
00329 COMMON /RADCOM/ OLJAN(19), OLAPR(19), OLJUL(19), OLOCT(19) SRADCOM 26
00330 COMMON /RADCOM/ OCM22(23), OCM30(23), OCM38(23), OCM46(23) SRADCOM 27
00331 COMMON /RADCOM/ PROCM(23), OCMXX(23), NOZ, TOTOZ(4), CDATE(6) SRADCOM 28
00332 COMMON /RADCOM/ CZH(72), WET(72), EVAP, PREP(72), WI(72) SRADCOM 29
00333 COMMON /RADCOM/ COSZ(72), SO, RADTRM(72), CXL SRADCOM 30
00334 COMMON /RADCOM/ SG(72), SP(72) SRADCOM 31
00335 COMMON /RADCOM/ RSURF(72), RCLLOUD(72), JALB SRADCOM 32
00336 COMMON /RADCOM/ LAND(72), OCEAN(72), ICE(72) SRADCOM 33
00337 COMMON /RADCOM/ SNOW(72), MIXWI(72), FROST(72) SRADCOM 34
00338 LOGICAL LAND, OCEAN, ICE, SNOW, MIXWI, FROST SRADCOM 35
C
00339 DATA TCOND/0.0,1.0,2.0,4.0,6.0,6.0,8.0,8.0,8.0/ SBLOCKD 30
00340 DATA TPENE/0.0,0.0,8.0,8.0,6.0,8.0,8.0,8.0,8.0/ SBLOCKD 31
00341 DATA TLOWL/16./ SBLOCKD 32
00342 DATA TMIDL/8.0/ SBLOCKD 33
00343 DATA NLAYOZ/5/ SBLOCKD 34
00344 DATA FK/0.107,0.104,0.073,0.044,0.025/ SBLOCKD 35
00345 DATA XK/0.005,0.041,0.416,4.752,72.459/ SBLOCKD 36
00346 DATA NFK/5/ SBLOCKD 37
00347 DATA OLJAN/.2292,.2308,.2354,.2417,.2521,.2646,.2783,.2942,.3042, SBLOCKD 38
& .3121,.3204,.3292,.3404,.3496,.3542,.3575,.3579,.3567,.3558/ SBLOCKD 39
00348 DATA OLAPR/.2375,.2408,.2475,.2583,.2725,.2879,.3062,.3250,.3429, SBLOCKD 40
& .3608,.3762,.3925,.4075,.4200,.4287,.4333,.4342,.4329,.4312/ SBLOCKD 41
00349 DATA OLJUL/.2387,.2454,.2508,.2583,.2658,.2746,.2837,.2950,.3067, SBLOCKD 42
& .3187,.3275,.3329,.3354,.3358,.3337,.3321,.3283,.3229,.3175/ SBLOCKD 43
00350 DATA OLOCT/.2346,.2358,.2383,.2425,.2479,.2525,.2567,.2608,.2646, SBLOCKD 44
& .2679,.2717,.2754,.2792,.2829,.2867,.2883,.2896,.2896,.2883/ SBLOCKD 45
00351 DATA OCM22/.00008,.00657,.01830,.03353,.05614,.08685,.10930, SBLOCKD 46
& .14029,.15624,.17797,.18492,.18867,.19120,.19384,.19645, SBLOCKD 47
& .19844,.20262,.20601,.20907,.21198,.21473,.21728,.21992/ SBLOCKD 48
00352 DATA OCM30/.00008,.00657,.01837,.03496,.06280,.10410,.13398, SBLOCKD 49
& .17521,.21079,.22947,.24222,.24927,.25410,.25911,.26396, SBLOCKD 50
& .26763,.27503,.28061,.28528,.28937,.29307,.29646,.29996/ SBLOCKD 51
00353 DATA OCM38/.00008,.00657,.01869,.03923,.07442,.12224,.15686, SBLOCKD 52
& .20473,.24695,.27145,.29138,.30410,.31297,.32208,.33065, SBLOCKD 53
& .33675,.34802,.35563,.36162,.36673,.37134,.37559,.37998/ SBLOCKD 54
00354 DATA OCM46/.00008,.00657,.01889,.04170,.07985,.12844,.15345, SBLOCKD 55
& .21238,.25742,.28619,.31284,.33246,.34793,.36555,.38344, SBLOCKD 56
& .39675,.41902,.43025,.43784,.44401,.44958,.45471,.46000/ SBLOCKD 57
00355 DATA PROCM/1,3,5,7,10,15,20,30,45,60,80,100,120,150, SBLOCKD 58
& 190,230,340,450,560,670,780,890,1013,25/ SBLOCKD 59
00356 DATA CDATE/-77.0,15.0,105.0,196.0,288.0,380.0/ SBLOCKD 60
00357 DATA TOTOZ/0.22,0.30,0.38,0.46/ SBLOCKD 61
00358 DATA NOZ/23/ SBLOCKD 62
C * *
00359 END SBLOCKD 64

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VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES
ADATE	CCNTRL	CHAR*B	SIMPLE	3 16
ADLOP	RDPARM	REAL	SIMPLE	206
AL	RADCOM	REAL	ARRAY	322
APHEL	RCNTRL	REAL	SIMPLE	146 242/I
AS	RADCOM	REAL	ARRAY	307
ATIME	CCNTRL	CHAR*B	SIMPLE	4 17
BETA	RCNTRL	REAL	SIMPLE	147 243/I
C10	CNTRLP	REAL	SIMPLE	265 296/I
C100	CNTRLP	REAL	SIMPLE	266 298/I

BLOCK DATA 7

[illegible]

[illegible]

KLIGW	ICNTRL	INTEGER	SIMPLE	38															
KLISST	ICNTRL	INTEGER	SIMPLE	39															
KS	ICNTRL	INTEGER	SIMPLE	40															
KSTEP	IDPARM	INTEGER	SIMPLE	196															
KU	ICNTRL	INTEGER	SIMPLE	41															
LAND	RADCOM	LOGICAL	ARRAY	336	338														
LC	LCNTRL	LOGICAL	ARRAY	143	144														
LCO	LCNTRL	LOGICAL	SIMPLE	92	143	144													
LCNTRL		INTEGER	UNKNOWN	92	93	94	95	96	97	98	99	100	101	102					
				103	104														
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	116	141														
LDPARM		INTEGER	UNKNOWN	200	201	202													
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	110	135														
LFUSION	LCNTRL	LOGICAL	UNKNOWN	111	136														
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	109	134														
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	139														
LOG8R	ICNTRL	INTEGER	SIMPLE	42															
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	115	140														
LPREACC	LCNTRL	LOGICAL	UNKNOWN	107	132														
LPRECON	LCNTRL	LOGICAL	UNKNOWN	108	133														
LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114					
				128															
LQU	LCNTRL	LOGICAL	ARRAY	104	115														
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138	116	117	129											
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	142														
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	112	137														
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131														
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130														
MATIN	ICNTRL	INTEGER	SIMPLE	43															
MATSNX	ICNTRL	INTEGER	SIMPLE	44															
MATSUN	ICNTRL	INTEGER	SIMPLE	45															
MIXWI	RADCOM	LOGICAL	ARRAY	337	338														
MJ	IDPARM	INTEGER	ARRAY	197															
MLF	ICNTRL	INTEGER	ARRAY	46															
MROD	ICNTRL	INTEGER	SIMPLE	47															
MSM	ICNTRL	INTEGER	SIMPLE	49															
NB	ICNTRL	INTEGER	SIMPLE	50															
ND	ICNTRL	INTEGER	SIMPLE	51															
NDALT	ICNTRL	INTEGER	SIMPLE	52															
NDAY	ICNTRL	INTEGER	SIMPLE	53															
NDHOG	ICNTRL	INTEGER	SIMPLE	74															
NDOUT	ICNTRL	INTEGER	SIMPLE	54															
NDPHY	ICNTRL	INTEGER	SIMPLE	55															
NDRSW	ICNTRL	INTEGER	SIMPLE	29															
NDSHF	ICNTRL	INTEGER	SIMPLE	56															
NDT	ICNTRL	INTEGER	SIMPLE	57															
NDTC3	CNTRLP	INTEGER	SIMPLE	279															
NFK	RADCOM	INTEGER	SIMPLE	328	346/I														
NFLW	CNTRLP	INTEGER	SIMPLE	280															
NHMS	ICNTRL	INTEGER	SIMPLE	58															
NHMS0	ICNTRL	INTEGER	SIMPLE	60															
NHMS1	IDPARM	INTEGER	SIMPLE	198															
NHMSE	ICNTRL	INTEGER	SIMPLE	59															
NKRSH	ICNTRL	INTEGER	SIMPLE	48															
NLAY	ICNTRL	INTEGER	SIMPLE	61															
NLAYM1	ICNTRL	INTEGER	SIMPLE	62															
NLAYOZ	RADCOM	INTEGER	SIMPLE	327	343/I														
NLAYP1	ICNTRL	INTEGER	SIMPLE	63															
NMLEV	ICNTRL	INTEGER	SIMPLE	73															
NOZ	RADCOM	INTEGER	SIMPLE	331	358/I														
NSDAY	ICNTRL	INTEGER	SIMPLE	64															
NSEQ	ICNTRL	INTEGER	SIMPLE	65															
NSTEP	ICNTRL	INTEGER	SIMPLE	67															
NYMD	ICNTRL	INTEGER	SIMPLE	69															
NYMD0	ICNTRL	INTEGER	SIMPLE	71															
NYMD1	IDPARM	INTEGER	SIMPLE	199															
NYMDE	ICNTRL	INTEGER	SIMPLE	70															
NZINIT	ICNTRL	INTEGER	SIMPLE	72															
OCEAN	RADCOM	LOGICAL	ARRAY	336	338														
OCM22	RADCOM	REAL	ARRAY	330	351/I														

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SGNP	RDPARM	REAL	ARRAY	233		
SHG	RADCOM	REAL	ARRAY	313		
SHL	RADCOM	REAL	ARRAY	312		
SHLE	RADCOM	REAL	ARRAY	312		
SHLTOP	CNTRL	REAL	SIMPLE	283	303/I	
SHSAT	RADCOM	REAL	ARRAY	314		
SIG	RDPARM	REAL	ARRAY	240		
SIGE	CNTRL	REAL	ARRAY	176		
SIND	CNTRL	REAL	SIMPLE	177		
SINL	RDPARM	REAL	ARRAY	234		
SINLON	RDPARM	REAL	ARRAY	235		
SINROT	CNTRL	REAL	SIMPLE	284		
SN2FLG	CNTRL	LOGICAL	SIMPLE	100	125	
SNOW	RADCOM	LOGICAL	ARRAY	337	338	
SNOWN	CNTRL	REAL	SIMPLE	285		
SNOWS	CNTRL	REAL	SIMPLE	286		
SOLS	CNTRL	REAL	SIMPLE	178	252/I	
SP	RADCOM	REAL	ARRAY	334		
SRS	RADCOM	REAL	ARRAY	325		
SSS	RADCOM	REAL	ARRAY	316		
SSSE	RADCOM	REAL	ARRAY	316		
START	LDARM	LOGICAL	SIMPLE	202	205	
STBO	CNTRL	REAL	SIMPLE	287	301/I	
STERP1	CNTRL	REAL	SIMPLE	288		
STERP2	CNTRL	REAL	SIMPLE	289		
STN	RADCOM	REAL	ARRAY	325		
SWALE	RADCOM	REAL	ARRAY	321		
SWIL	RADCOM	REAL	ARRAY	321		
TAUL	RADCOM	REAL	ARRAY	323		
TCOND	RADCOM	REAL	ARRAY	326	339/I	
TG	RADCOM	REAL	ARRAY	311		
TH	RADCOM	REAL	ARRAY	311		
THSTD	RDPARM	REAL	SIMPLE	236		
THSTD2	RDPARM	REAL	SIMPLE	237		
TICE	CNTRL	REAL	SIMPLE	290	302/I	
TL	RADCOM	REAL	ARRAY	310		
TLE	RADCOM	REAL	ARRAY	310		
TLOWL	RADCOM	REAL	SIMPLE	327	341/I	
TLTOP	CNTRL	REAL	SIMPLE	291	304/I	
TMIDL	RADCOM	REAL	SIMPLE	327	342/I	
TN	RADCOM	REAL	ARRAY	325		
TOPABS	RADCOM	REAL	ARRAY	324		
TOTOZ	RADCOM	REAL	ARRAY	331	357/I	
TPENE	RADCOM	REAL	ARRAY	326	340/I	
TSTD	CNTRL	REAL	SIMPLE	179		
VER	CNTRL	CHAR*8	SIMPLE	10	23	241/I
WET	RADCOM	REAL	ARRAY	332		
WI	RADCOM	REAL	ARRAY	332		
WSAVE	RDPARM	REAL	ARRAY	238		
XDAY	CNTRL	REAL	SIMPLE	292		
XK	RADCOM	REAL	ARRAY	328	345/I	
XLABEL	CNTRL	CHAR*8	ARRAY	11	24	
ZLNCO	CNTRL	REAL	SIMPLE	293		

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BLOCK DATA 11

```

00001      SUBROUTINE CLOCKS(N)
00002      N = -100.0 * SECOND(DUMMY)
00003      RETURN
00004      END

```

```

SCLOCKS 2
SCLOCKS 3
SCLOCKS 4
SCLOCKS 5

```

VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES	
CLOCKS			SUBROUTINE	1	
DUMMY		REAL	SIMPLE	2	
N		INTEGER	SIMPLE	1	2/S

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	
SECOND	REAL	INTRINSIC	2	D=STMT FN DEF, A=ARGLIST

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00001 SUBROUTINE CLOUDS (IM,NLAY,NCALL)

C
C
C

PHYSICS PARAMETERS AND CONSTANTS

00002 COMMON /CNTRLP/ CDFR
00003 COMMON /CNTRLP/ CDXL
00004 COMMON /CNTRLP/ CDXO
00005 COMMON /CNTRLP/ CLH
00006 COMMON /CNTRLP/ COE (9)
00007 COMMON /CNTRLP/ COEF
00008 COMMON /CNTRLP/ COEFS
00009 COMMON /CNTRLP/ COSROT
00010 COMMON /CNTRLP/ CPP
00011 COMMON /CNTRLP/ CTID
00012 COMMON /CNTRLP/ CUMDAY
00013 COMMON /CNTRLP/ CUMRAT
00014 COMMON /CNTRLP/ C10
00015 COMMON /CNTRLP/ C100
00016 COMMON /CNTRLP/ C40
00017 COMMON /CNTRLP/ DELTA
00018 COMMON /CNTRLP/ DTC3
00019 COMMON /CNTRLP/ DTOUT
00020 COMMON /CNTRLP/ ED
00021 COMMON /CNTRLP/ EDNM
00022 COMMON /CNTRLP/ FCOEF
00023 COMMON /CNTRLP/ FMU
00024 COMMON /CNTRLP/ FWET
00025 COMMON /CNTRLP/ GAMFAC
00026 COMMON /CNTRLP/ GTOPO
00027 COMMON /CNTRLP/ HICE
00028 COMMON /CNTRLP/ NDTCS
00029 COMMON /CNTRLP/ NFLW
00030 COMMON /CNTRLP/ PIM
00031 COMMON /CNTRLP/ QHOG
00032 COMMON /CNTRLP/ SHLTOP
00033 COMMON /CNTRLP/ SINROT
00034 COMMON /CNTRLP/ SNOBN
00035 COMMON /CNTRLP/ SNOWS
00036 COMMON /CNTRLP/ STBO
00037 COMMON /CNTRLP/ STERP1
00038 COMMON /CNTRLP/ STERP2
00039 COMMON /CNTRLP/ TICE
00040 COMMON /CNTRLP/ TLTOP
00041 COMMON /CNTRLP/ XDAY
00042 COMMON /CNTRLP/ ZLNCO
00043 LOGICAL QHOG

C
C
C

RADIATION AND SOURCE TERM FIELDS

00044 COMMON /RADCOM/ AS(72,9), RE(72,10)
00045 COMMON /RADCOM/ PL(72,9), PLE(72,10)
00046 COMMON /RADCOM/ PLK(72,9), PLKE(10)
00047 COMMON /RADCOM/ TL(72,9), TLE(72,10)
00048 COMMON /RADCOM/ TG(72), TH(72,9)
00049 COMMON /RADCOM/ SHL(72,9), SHLE(72,10)
00050 COMMON /RADCOM/ SHG(72), CLOUD(72,12)
00051 COMMON /RADCOM/ SHSAT(72,9), GAM(72,9)
00052 COMMON /RADCOM/ RH(72,9)
00053 COMMON /RADCOM/ SSS(72,9), SSSE(72,10)
00054 COMMON /RADCOM/ HH(72,9), HHE(72,10)
00055 COMMON /RADCOM/ HHS(72,9)
00056 COMMON /RADCOM/ CVT(72,9), CVQ(72,9)
00057 COMMON /RADCOM/ CXDE(9)
00058 COMMON /RADCOM/ SWALE(72,10), SWIL(72,9)
00059 COMMON /RADCOM/ AL(72,10)
00060 COMMON /RADCOM/ TAU(72,10), OZALE(72,10)
00061 COMMON /RADCOM/ TOPABS(72)
00062 COMMON /RADCOM/ RN(9), TN(9), SRS(9), STN(9)
00063 COMMON /RADCOM/ TCOND(9), TRENE(9)
00064 COMMON /RADCOM/ TLOWL,TMIDL,NLAYOZ
00065 COMMON /RADCOM/ FK(5), XK(5), NFK

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SRADCOM 20
SRADCOM 21
SRADCOM 22
SRADCOM 23
SRADCOM 24
SRADCOM 25

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CLOUDS 1


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00113      DB = DA
00114      110 CONTINUE
C
00115      L1 = NTOP(I)
00116      DO 120 L=L1,NLAYP
00117      AL(I,L) = 0.0
00118      120 CONTINUE
C
C *****
C ***** REFLECTIVITY OF CLOUDY ATMOSPHERE FOR VISUAL LIGHT *****
C *****
C
00119      TAU = 0.0
C
00120      DO 130 L=1,NLAY
00121      TAU = TAU + TAUL(I,L)
00122      130 CONTINUE
C
00123      PIO = .99999
00124      TAUP = .212132E-04*TAU
00125      ETP = EXP(TAUP)
00126      D = .1500245E+09*ETP - .1499755E+09/ETP
00127      RNN = .1500E+09*(ETP - 1./ETP)/D
00128      SRNN = (1. - RNN)*RSURF(I)/(1. - RNN*RSURF(I))
00129      RNN = RNN*RTOP(TAU,PIO,COSZ(I))
C
00130      RCLCUD(I) = RNN + (1.0 - RNN)*SRNN
C
00131      IF (DB.GT.0.999) GOTO 810
C
C *****
C ***** ABSORPTION IN CLOUDS *****
C ***** WITH MULTIPLE REFLECTIONS FOR K-DISTRIBUTION *****
C *****
C
00132      DO 250 K=1,NFK
00133      FKK = FK(K)
00134      XKK = XK(K)
00135      WK = W(I)*XKK
C
00136      IF (WK.GT.7.0) GOTO 810
C
00137      SK = EXP(-WK)
00138      SB = EXP(-1.66*WK)
00139      NCLR1 = NCLEAR + 1
C
00140      DO 180 L=NCLR1,NLAY
00141      TAUSC = TAUL(I,L)
00142      TAUAB = AMIN1(SWIL(I,L)*XKK,20.)
00143      IF (TAUSC.LT.0.01) GO TO 160
00144      TAU = TAUSC + TAUAB
00145      PIO = AMIN1(TAUSC/TAU,.9999)
C
C *****
C ***** INDIVIDUAL CLOUD LAYER REFLECTIVITY *****
C ***** AND TRANSMISSIVITY *****
C *****
C
00146      U = SQRT((1. - 0.850*PIO)/(1. - PIO))
00147      TAUP = 1.732051*U*(1.0 - PIO)*TAU
00148      ETP = EXP(TAUP)
00149      D = (U + 1.)*2*ETP - (U - 1.)*2/ETP
00150      RNN = (U*2 - 1.)*(ETP - 1./ETP)/D
00151      TNN = 4.*U/D
00152      RN(I) = RNN

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SCLOUDS 38
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SCLOUDS108

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CLOUDS 3

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00153      TN(L) = TNN
00154      IF (L.EQ.NTOP(I)) GO TO 150
C
C *****
C ***** SUM REFLECTIVITY AND TRANSMISSIVITY *****
C ***** FOR TOP,BOTTOM ILLUMINATION *****
C *****
C
00155      DENOM = 1.0 - SRSN*RNN
00156      SRNN = SRNN + STNN*RNN*STSN/DENOM
00157      STNN = STNN*TNN/DENOM
00158      SRSN = RNN + TNN**2*SRSN/DENOM
00159      STSN = TNN*STSN/DENOM
00160      TFK = FKK*STNN
C
00161      GO TO 170
C
C *****
C ***** TOP CLOUD ZENITH ANGLE DEPENDENT REFLECTIVITY *****
C ***** AND TRANSMISSIVITY *****
C *****
C
00162      150 CONTINUE
00163      RNK = RNN*RTOP(TAU,PIO,COSZ(I))
00164      TNK = TNN*TTOP(TAU,PIO,COSZ(I))
00165      SRNN = SK*RNK*SB
00166      STNN = SK*TNK
00167      SRSN = RNN
00168      STSN = TNN*SB
00169      TFK = FKK*STNN
C
00170      GO TO 170
C
C *****
C ***** CLEAR LAYER DIFFUSE TRANSMISSION *****
C *****
C *****
C
00171      160 CONTINUE
00172      SB = EXP(-1.66*TAUAB)
00173      STNN = STNN*SB
00174      SRSN = SRSN*SB**2
00175      STSN = STSN*SB
00176      RN(L) = 0.
00177      TN(L) = SB
00178      TFK = FKK*STNN
C
00179      170 CONTINUE
C
00180      IF (TFK.LT..001) GO TO 190
00181      STN(L) = STNN
00182      SRS(L) = SRSN
C
00183      180 CONTINUE
C
C *****
C ***** ABSORPTION AT GROUND *****
C *****
C *****
C
00184      L = NLAYP1
00185      RNN = RSURF(I)
00186      DENOM = 1. - SRSN*RNN
00187      DA = STNN*(1. - TNN)/DENOM*FKK

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00188      AL(I,L) = AL(I,L) + DA
00189      DB = DA
00190      GO TO 200
C
C *****
C ***** DISTRIBUTION OF ABSORPTION AMONG INDIVIDUAL CLOUD LAYERS *****
C *****
00191      190 CONTINUE
C
00192      M = L-1
00193      IF (M.LT.NTOP(I)) GO TO 220
C
00194      SRSN = SRS(M)
00195      STNN = STN(M)
00196      DENOM = 1. - SRSN*RNN
00197      DA = STNN*(1. - RNN)/DENOM*FKK
00198      AL(I,L) = AL(I,L) + DA
00199      DB = DA
C
00200      200 CONTINUE
C
00201      L = L-1
00202      M = L-1
00203      SRSN = RN(L)
00204      STNN = TN(L)
00205      DENOM = 1. - SRSN*RNN
C
00206      IF (M.LT.NTOP(I)) GO TO 215
C
00207      N1 = M
00208      NO = NTOP(I)
00209      DO 210 NN=N0,N1
00210          RNN = SRSN + STNN**2*RNN/DENOM
00211          SRSN = SRS(M)
00212          STNN = STN(M)
00213          DENOM = 1. - SRSN*RNN
00214          DA = STNN*(1. - RNN)/DENOM*FKK
00215          AL(I,L) = AL(I,L) + DA - DB
00216          DB = DA
00217          L = L-1
00218          M = L-1
00219          SRSN = RN(L)
00220          STNN = TN(L)
00221          DENOM = 1. - SRSN*RNN
00222      210 CONTINUE
C
00223      215 CONTINUE
C
00224      RNN = RNK + TNK*STNN*RNN/DENOM
00225      DA = SK*(1. - RNN)*FKK
00226      AL(I,L) = AL(I,L) + DA - DB
00227      DB = DA
C
00228      GO TO 230
C
C *****
C ***** ABSORPTION OF REFLECTED FLUX ABOVE CLOUDS *****
C *****
00229      220 CONTINUE
C
00230      DA = SK*(1. - RNK)*FKK
00231      AL(I,L) = AL(I,L) + DA
00232      RNN = RNK
C

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SCLOUDS250

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[illegible]

STERP2	CNTRL P	REAL	SIMPLE	38										
STN	RADCOM	REAL	ARRAY	62	181/S	195	212							
STNN		REAL	SIMPLE	156	157/S	157	160	166/S	169	173/S	173	178	181	187
				195/S	197	204/S	210	212/S	214	220/S	224			
STSN		REAL	SIMPLE	156	159/S	159	168/S	175/S	175					
SWALE	RADCOM	REAL	ARRAY	58	106	110	240							
SWIL	RADCOM	REAL	ARRAY	58	142									
TAU		REAL	SIMPLE	98	98	99	99	119/S	121/S	121	124	129	144/S	145
				147	163	164								
TAUAB		REAL	SIMPLE	142/S	144	172								
TAUL	RADCOM	REAL	ARRAY	60	121	141								
TAUP		REAL	SIMPLE	124/S	125	147/S	148							
TAUSC		REAL	SIMPLE	141/S	143	144	145							
TCOND	RADCOM	REAL	ARRAY	63										
TEMP 1	DSOLAR	REAL	ARRAY	82										
TFK		REAL	SIMPLE	160/S	169/S	178/S	180							
TG	RADCOM	REAL	ARRAY	48										
TH	RADCOM	REAL	ARRAY	48										
TICE	CNTRL P	REAL	SIMPLE	39										
TL	RADCOM	REAL	ARRAY	47										
TLE	RADCOM	REAL	ARRAY	47										
TLOWL	RADCOM	REAL	SIMPLE	64										
TLTOP	CNTRL P	REAL	SIMPLE	40										
TMIDL	RADCOM	REAL	SIMPLE	64										
TN	RADCOM	REAL	ARRAY	62	153/S	177/S	204	220						
TNK		REAL	SIMPLE	164/S	166	224								
TNN		REAL	SIMPLE	151/S	153	157	158	159	164	168				
TOPABS	RADCOM	REAL	ARRAY	61	108/S									
TOTABS	DSOLAR	REAL	ARRAY	77										
TOTOZ	RADCOM	REAL	ARRAY	68										
TPENE	RADCOM	REAL	ARRAY	63										
U		REAL	SIMPLE	146/S	147	149	149	150	151					
W	DSOLAR	REAL	ARRAY	85	106/S	107	110/S	111	135	240				
WET	RADCOM	REAL	ARRAY	69										
WI	RADCOM	REAL	ARRAY	69										
WK		REAL	SIMPLE	135/S	136	137	138	240/S	241					
WW	DSOLAR	REAL	ARRAY	88										
X		REAL	SIMPLE	97	97	97	97							
XDAY	CNTRL P	REAL	SIMPLE	41										
XK	RADCOM	REAL	ARRAY	65	134									
XKK		REAL	SIMPLE	134/S	135	142	240							
ZLNCO	CNTRL P	REAL	SIMPLE	42										

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT	FN	DEF	A=ARGLIST
AMIN1	REAL	INTRINSIC	142 145				
AWATER	REAL	STAT FUNC	97/S 107	111			
EXP	REAL	INTRINSIC	125 137	138	148	172	241
RTOP	REAL	STAT FUNC	98/S 129	163			
SQRT	REAL	INTRINSIC	146				
TTOP	REAL	STAT FUNC	99/S 164				

ORIGINAL PAGE 11
OF POOR QUALITY


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00001 SUBROUTINE COMPO (=)
C .....
C PURPOSE
C CONTROLS DIFFERENCING SCHEME (HYDRODYNAMICS).
C CALLED BY MAIN (GWSGCM) ONLY
C .....
C USAGE
C .....
C INTEGRATE Q(NB) DT SECONDS FORWARD IN TIME USING Q(ND)
C DERIVATIVES. Q STANDS FOR U, V, T, SH AND P.
C IT IS INVOKED ONCE FOR LEAPFROG, TWICE FOR MATSUNO TIME SCHEME.
C MATSUN = 0 FOR LEAPFROG STEP
C MATSUN = 1 FOR MATSUNO PREDICTOR STEP OR MATSUNO CORRECTOR STEP
C KSTEP = 0 FOR MATSUNO PREDICTOR STEP
C KSTEP = 1 FOR MATSUNO CORRECTOR STEP OR LEAPFROG STEP
C KSTEP = 2 FOR STEP BEFORE MATSUNO STEP
C .....
C ARGUMENTS DESCRIPTION
C PRESSURE DIAGNOSTIC ERROR RETURN
C .....
C SUBPROGRAMS NEEDED
C NAME DESCRIPTION
C AVRX FOURIER FILTERS IN HORIZONTAL DIRECTION
C COMP1 COMPUTE HORIZONTAL AND VERTICAL ADVECTION TERMS
C COMP2 COMPUTE CORIOLIS, THERMODYNAMICS, AND PRESSURE GRADIENT
C COPYQ COPY MODEL QUANTITIES
C GEOHT INTEGRATE NORMALIZED SIGMA LAYER GEOPOTENTIAL HEIGHT
C POLOUT REDISTRIBUTES MODEL POLE QUANTITIES
C PRDIAG PRINTS OUT PRESSURE DIAGNOSTICS
C RESTQM RESTORE TEMPORARY MODEL QUANTITIES
C SAVEQM TEMPORARILY SAVE MODEL QUANTITIES
C SCALEQ VOLUME SCALES MODEL QUANTITIES
C SHCORN CORRECTS NEGATIVE SPECIFIC HUMIDITIES
C TIMAVG TIME AVERAGE Q(ND) AFTER LEAPFROG STEP
C .....
C RECORD OF MODIFICATIONS
C BASED ON OLD VERSION 8.
C .....
C ?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS?
C 04/28/83 RAMESH THIS PART AND COMMENTS
C .....
C REMARKS:
C ( 1 ) ?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.?
C PRESSURE DIAGNOSTIC ERROR CODE RETURNED
C .....
C M / A - C O M S I G M A D A T A I N C . N A S A - G S F C
C .....
C .....
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00002 COMMON /CCNTRL/ CCO
00003 COMMON /CCNTRL/ ADATE
00004 COMMON /CCNTRL/ ATIME
00005 COMMON /CCNTRL/ JIC
00006 COMMON /CCNTRL/ JOB
00007 COMMON /CCNTRL/ CCSP06
00008 COMMON /CCNTRL/ CCSP07
00009 COMMON /CCNTRL/ CCSP08
00010 COMMON /CCNTRL/ VER
00011 COMMON /CCNTRL/ XLABEL (10)
00012 COMMON /CCNTRL/ CQS (30)
00013 COMMON /CCNTRL/ CQU (10)
C .....
00014 EQUIVALENCE (CCO,CC(1))
00015 CHARACTER*8 CCO, CC(200)
00016 CHARACTER*8 ADATE

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SCOMPO 2
SCOMPO 3
SCOMPO 4
SCOMPO 5
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SCNTRL 20

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00017	CHARACTER*8	ATIME	SCNTRL	21	
00018	CHARACTER*8	JIC	SCNTRL	22	
00019	CHARACTER*8	JOB	SCNTRL	23	
00020	CHARACTER*8	CCSP06	SCNTRL	24	
00021	CHARACTER*8	CCSP07	SCNTRL	25	
00022	CHARACTER*8	CCSP08	SCNTRL	26	
00023	CHARACTER*8	VER	SCNTRL	27	
00024	CHARACTER*8	XLABEL	SCNTRL	28	
C				SCNTRL	29
C				SCNTRL	30
C				SCNTRL	31
C				SCNTRL	32
C				SCNTRL	33
C				SCNTRL	34
C				SCNTRL	35
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C				SCNTRL	88
C				SCNTRL	89
C				SCNTRL	90
C				SCNTRL	91

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00084	EQUIVALENCE	(IRADSWG ,IQS(8))	SCNTRL	92
00085	EQUIVALENCE	(IRADLWG ,IQS(9))	SCNTRL	93
00086	EQUIVALENCE	(LICLOUD ,IQS(10))	SCNTRL	94
C			SCNTRL	95
00087	EQUIVALENCE	(IOMEGA ,IQU(1))	SCNTRL	96
00088	EQUIVALENCE	(IDIABAT ,IQU(2))	SCNTRL	97
00089	EQUIVALENCE	(IRADSW ,IQU(3))	SCNTRL	98
C			SCNTRL	99
00090	EQUIVALENCE	(IC0,IC(1))	SCNTRL	100
00091	INTEGER	IC0, IC(200)	SCNTRL	101
C			SCNTRL	102
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD		SCNTRL	103
C	=====		SCNTRL	104
00092	COMMON /LCNTRL/	LC0	SCNTRL	105
00093	COMMON /LCNTRL/	QALT	SCNTRL	106
00094	COMMON /LCNTRL/	QBEG	SCNTRL	107
00095	COMMON /LCNTRL/	QDAY	SCNTRL	108
00096	COMMON /LCNTRL/	QEND	SCNTRL	109
00097	COMMON /LCNTRL/	QOUT	SCNTRL	110
00098	COMMON /LCNTRL/	QPHY	SCNTRL	111
00099	COMMON /LCNTRL/	QSHF	SCNTRL	112
00100	COMMON /LCNTRL/	SN2FLG	SCNTRL	113
00101	COMMON /LCNTRL/	QRSW	SCNTRL	114
00102	COMMON /LCNTRL/	QRSH	SCNTRL	115
00103	COMMON /LCNTRL/	LQS(30)	SCNTRL	116
00104	COMMON /LCNTRL/	LQU(10)	SCNTRL	117
C			SCNTRL	118
00105	EQUIVALENCE	(LTMIN ,LQS(1))	SCNTRL	119
00106	EQUIVALENCE	(LTMAX ,LQS(2))	SCNTRL	120
00107	EQUIVALENCE	(LPREACC ,LQS(3))	SCNTRL	121
00108	EQUIVALENCE	(LPRECON ,LQS(4))	SCNTRL	122
00109	EQUIVALENCE	(LHFLUX ,LQS(5))	SCNTRL	123
00110	EQUIVALENCE	(LEFLUX ,LQS(6))	SCNTRL	124
00111	EQUIVALENCE	(LFUSION ,LQS(7))	SCNTRL	125
00112	EQUIVALENCE	(LRADSWG ,LQS(8))	SCNTRL	126
00113	EQUIVALENCE	(LRADLWG ,LQS(9))	SCNTRL	127
00114	EQUIVALENCE	(LICLOUD ,LQS(10))	SCNTRL	128
C			SCNTRL	129
00115	EQUIVALENCE	(LOMEGA ,LQU(1))	SCNTRL	130
00116	EQUIVALENCE	(LDIABAT ,LQU(2))	SCNTRL	131
00117	EQUIVALENCE	(LRADSW ,LQU(3))	SCNTRL	132
C			SCNTRL	133
00118	LOGICAL	QALT	SCNTRL	134
00119	LOGICAL	QBEG	SCNTRL	135
00120	LOGICAL	QDAY	SCNTRL	136
00121	LOGICAL	QEND	SCNTRL	137
00122	LOGICAL	QOUT	SCNTRL	138
00123	LOGICAL	QPHY	SCNTRL	139
00124	LOGICAL	QSHF	SCNTRL	140
00125	LOGICAL	SN2FLG	SCNTRL	141
00126	LOGICAL	QRSW	SCNTRL	142
00127	LOGICAL	QRSH	SCNTRL	143
C			SCNTRL	144
00128	LOGICAL	LQS	SCNTRL	145
00129	LOGICAL	LQU	SCNTRL	146
00130	LOGICAL	LTMIN	SCNTRL	147
00131	LOGICAL	LTMAX	SCNTRL	148
00132	LOGICAL	LPREACC	SCNTRL	149
00133	LOGICAL	LPRECON	SCNTRL	150
00134	LOGICAL	LHFLUX	SCNTRL	151
00135	LOGICAL	LEFLUX	SCNTRL	152
00136	LOGICAL	LFUSION	SCNTRL	153
00137	LOGICAL	LRADSWG	SCNTRL	154
00138	LOGICAL	LRADLWG	SCNTRL	155
00139	LOGICAL	LICLOUD	SCNTRL	156
C			SCNTRL	157
00140	LOGICAL	LOMEGA	SCNTRL	158
00141	LOGICAL	LDIABAT	SCNTRL	159
00142	LOGICAL	LRADSW	SCNTRL	160
C			SCNTRL	161
00143	EQUIVALENCE	(LC0,LC(1))	SCNTRL	162

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00144	C	LOGICAL	LC0, LC(200)	SCNTRL	163
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD		SCNTRL	164
	C	=====		SCNTRL	165
00145		COMMON /RCNTRL/ RCO		SCNTRL	166
00146		COMMON /RCNTRL/ APHEL		SCNTRL	167
00147		COMMON /RCNTRL/ BETA		SCNTRL	168
00148		COMMON /RCNTRL/ COSD		SCNTRL	169
00149		COMMON /RCNTRL/ CP		SCNTRL	170
00150		COMMON /RCNTRL/ DAYSPY		SCNTRL	171
00151		COMMON /RCNTRL/ DEC		SCNTRL	172
00152		COMMON /RCNTRL/ DECMAX		SCNTRL	173
00153		COMMON /RCNTRL/ DIST		SCNTRL	174
00154		COMMON /RCNTRL/ DLAT		SCNTRL	175
00155		COMMON /RCNTRL/ DLON		SCNTRL	176
00156		COMMON /RCNTRL/ DT		SCNTRL	177
00157		COMMON /RCNTRL/ ECCN		SCNTRL	178
00158		COMMON /RCNTRL/ GNU1		SCNTRL	179
00159		COMMON /RCNTRL/ GNU2		SCNTRL	180
00160		COMMON /RCNTRL/ GRAV		SCNTRL	181
00161		COMMON /RCNTRL/ OMEGA2		SCNTRL	182
00162		COMMON /RCNTRL/ PI		SCNTRL	183
00163		COMMON /RCNTRL/ PI180		SCNTRL	184
00164		COMMON /RCNTRL/ PI2		SCNTRL	185
00165		COMMON /RCNTRL/ PSTD		SCNTRL	186
00166		COMMON /RCNTRL/ PIMEAN		SCNTRL	187
00167		COMMON /RCNTRL/ PSMAK		SCNTRL	188
00168		COMMON /RCNTRL/ PSMIN		SCNTRL	189
00169		COMMON /RCNTRL/ PTOP		SCNTRL	190
00170		COMMON /RCNTRL/ RADE		SCNTRL	191
00171		COMMON /RCNTRL/ RGAS		SCNTRL	192
00172		COMMON /RCNTRL/ ROCP		SCNTRL	193
00173		COMMON /RCNTRL/ RSDIST		SCNTRL	194
00174		COMMON /RCNTRL/ SDAY		SCNTRL	195
00175		COMMON /RCNTRL/ SEASON		SCNTRL	196
00176		COMMON /RCNTRL/ SIGE (25)		SCNTRL	197
00177		COMMON /RCNTRL/ SIND		SCNTRL	198
00178		COMMON /RCNTRL/ SOLS		SCNTRL	199
00179		COMMON /RCNTRL/ TSTD		SCNTRL	200
00180		COMMON /RCNTRL/ PLEVS (25)		SCNTRL	201
00181		COMMON /RCNTRL/ HEATW		SCNTRL	202
00182		COMMON /RCNTRL/ HEATI		SCNTRL	203
00183		COMMON /RCNTRL/ EPS		SCNTRL	204
00184		COMMON /RCNTRL/ EPSFAC		SCNTRL	205
00185		COMMON /RCNTRL/ CALTOJ		SCNTRL	206
00186		COMMON /RCNTRL/ PZERO		SCNTRL	207
00187	C	EQUIVALENCE (RC0, RC(1))		SCNTRL	208
00188		REAL RC0, RC(200)		SCNTRL	209
	C	=====		SCNTRL	210
	C	INTEGER MODEL CONSTANTS		SCNTRL	211
	C	=====		SCNTRL	212
00189		COMMON /IDPARM/ IJUMP (46)		SCNTRL	213
00190		COMMON /IDPARM/ IDSP02		SCNTRL	214
00191		COMMON /IDPARM/ INDEX (72)		SCNTRL	215
00192		COMMON /IDPARM/ IROD		SCNTRL	216
00193		COMMON /IDPARM/ JC (46)		SCNTRL	217
00194		COMMON /IDPARM/ JE (2)		SCNTRL	218
00195		COMMON /IDPARM/ JP (2, 2)		SCNTRL	219
00196		COMMON /IDPARM/ KSTEP		SCNTRL	220
00197		COMMON /IDPARM/ MJ (46)		SCNTRL	221
00198		COMMON /IDPARM/ NHMS1		SCNTRL	222
00199		COMMON /IDPARM/ NYMD1		SCNTRL	223
	C	=====		SCNTRL	224
	C	LOGICAL MODEL CONSTANTS		SCNTRL	225
	C	=====		SCNTRL	226
00200		COMMON /LDPARM/ FILTER (46)		SCNTRL	227
00201		COMMON /LDPARM/ ITAPE		SCNTRL	228
00202		COMMON /LDPARM/ START		SCNTRL	229
	C	=====		SCNTRL	230
00203		LOGICAL FILTER		SCNTRL	231
				SCNTRL	232
				SCNTRL	233

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00204 LOGICAL ITAPE
00205 LOGICAL START
C
C REAL MODEL CONSTANTS
C *****
00206 COMMON /RDPARM/ ADLDP
00207 COMMON /RDPARM/ CON1
00208 COMMON /RDPARM/ CON1DT
00209 COMMON /RDPARM/ CON2
00210 COMMON /RDPARM/ CON2DT
00211 COMMON /RDPARM/ CON3
00212 COMMON /RDPARM/ CON3DT
00213 COMMON /RDPARM/ CON4
00214 COMMON /RDPARM/ CON4DT
00215 COMMON /RDPARM/ CON5
00216 COMMON /RDPARM/ COSL (46)
00217 COMMON /RDPARM/ COSLON (72)
00218 COMMON /RDPARM/ CPD2
00219 COMMON /RDPARM/ DXP (46)
00220 COMMON /RDPARM/ DXYP (46)
00221 COMMON /RDPARM/ DYP (46)
00222 COMMON /RDPARM/ FCORLS (46)
00223 COMMON /RDPARM/ F1DT
00224 COMMON /RDPARM/ F2DT
00225 COMMON /RDPARM/ H1DT
00226 COMMON /RDPARM/ H2DT
00227 COMMON /RDPARM/ PKSTD
00228 COMMON /RDPARM/ PKTOP
00229 COMMON /RDPARM/ RLAT (46)
00230 COMMON /RDPARM/ RLATD (46)
00231 COMMON /RDPARM/ ROCPDT
00232 COMMON /RDPARM/ ROCPP1
00233 COMMON /RDPARM/ SGMP (2)
00234 COMMON /RDPARM/ SINL (46)
00235 COMMON /RDPARM/ SINLON (72)
00236 COMMON /RDPARM/ THSTD
00237 COMMON /RDPARM/ THSTD2
00238 COMMON /RDPARM/ WSAVE (159)
00239 COMMON /RDPARM/ DSIG (9)
00240 COMMON /RDPARM/ SIG (9)

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C
C
C GLOBAL MODEL SURFACE FIELDS
C
00241 COMMON /QANDQT/ QS(72,19,46)

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C
00242 DIMENSION PHIS(1368,1)
00243 DIMENSION SMTH(1368,23)
00244 DIMENSION ALBEDO(1368,1)
00245 DIMENSION GT(1368,1)
00246 DIMENSION GW(1368,1)
00247 DIMENSION TS(1368,1)
00248 DIMENSION SHS(1368,1)
00249 DIMENSION P(72,19,1)
00250 DIMENSION TMIN(1368,1)
00251 DIMENSION TMAX(1368,1)
00252 DIMENSION PREACC(1368,1)
00253 DIMENSION PRECON(1368,1)
00254 DIMENSION HFLUX(1368,1)
00255 DIMENSION EFLUX(1368,1)
00256 DIMENSION FUSION(1368,1)
00257 DIMENSION RADSWG(1368,1)
00258 DIMENSION RADLWG(1368,1)
00259 DIMENSION ICLOUD(1368,1)
C
00260 EQUIVALENCE (QS(1,1,1),PHIS(1,1))
00261 EQUIVALENCE (QS(1,2,1),SMTH(1,1))
00262 EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))
00263 EQUIVALENCE (QS(1,4,1),GT(1,1))
00264 EQUIVALENCE (QS(1,5,1),GW(1,1))
00265 EQUIVALENCE (QS(1,6,1),TS(1,1))
00266 EQUIVALENCE (QS(1,7,1),SHS(1,1))

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SQANDQT 23
SQANDQT 24
SQANDQT 25
SQANDQT 26
SQANDQT 27
SQANDQT 28
SQANDQT 29
SQANDQT 30
SQANDQT 31

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00315 10      CONTINUE
00316      IF (KSTEP.EQ.0) CALL COPYQ (NB,ND,JP2)
00317      IF (KSTEP.EQ.1) CALL SAVEQM (NB,JP2)
00318      CALL SCALEQ (NB,JP2,1)
00319      CALL GEQHT (ND,JP2)
00320      IF (JP2.GT.2) GO TO 20
00321      JP1 = JP2
00322      JP2 = JP2 + 1
00323      GO TO 10

      PREDICT Q(NB,J) = Q(NB,J) + DT*F(Q(ND,J))

00324 20      CONTINUE
00325      CALL COMP1 (J)
00326      CALL COMP2 (J)
00327      IF (J.LT.3) GO TO 70

      CORRECT FOR NEGATIVE HUMIDITIES

00328 30      CONTINUE
00329      CALL SHCORN (JS2)

      CHECK FOR PRESSURE DIAGNOSTIC

00330      INC = IJUMP(JS2)
00331      DO 40 I=1,IM,INC
00332      PS = P(I,NB,JS2) + PTOP
00333      IF (PS.GE.PSMIN .AND. PS.LE.PSMAX) GO TO 40
00334      CALL PRDIAG (JS2,I)
00335      RETURN 1
00336 40      CONTINUE

      UNSCALE Q(NB,JS2)
      APPLY FOURIER FILTER NEAR POLES

00337      CALL SCALEQ (NB,JS2,-1)
00338      IF (FILTER(JS2)) CALL AVRX (JS2)

      TIME SMOOTH Q(ND,JS2) USING EARLIER AND LATER VALUES
      FOR SMOOTH LEAPFROG TIME SCHEME

00339      IF (MATSUM.NE.0) GO TO 50
00340      IF (KSTEP.EQ.1 .AND. GNU2.NE.0.) CALL TIMAVG (JS2)
00341      GO TO 60

      REPLACE ORIGINAL Q(NB,JS2) IN Q(ND,JS2)

```

```

SCOMP0 87
SCOMP0 88
SCOMP0 89
SCOMP0 90
SCOMP0 91
SCOMP0 92
SCOMP0 93
SCOMP0 94
SCOMP0 95
SCOMP0 96
SCOMP0 97
SCOMP0 98
SCOMP0 99
SCOMP0 100
SCOMP0 101
SCOMP0 102
SCOMP0 103
SCOMP0 104
SCOMP0 105
SCOMP0 106
SCOMP0 107
SCOMP0 108
SCOMP0 109
SCOMP0 110
SCOMP0 111
SCOMP0 112
SCOMP0 113
SCOMP0 114
SCOMP0 115
SCOMP0 116
SCOMP0 117
SCOMP0 118
SCOMP0 119
SCOMP0 120
SCOMP0 121
SCOMP0 122
SCOMP0 123
SCOMP0 124
SCOMP0 125
SCOMP0 126
SCOMP0 127
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SCOMP0 144
SCOMP0 145
SCOMP0 146
SCOMP0 147
SCOMP0 148
SCOMP0 149
SCOMP0 150
SCOMP0 151
SCOMP0 152
SCOMP0 153
SCOMP0 154
SCOMP0 155
SCOMP0 156
SCOMP0 157

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C ..... FOR MATSUNO TIME SCHEME CORRECTOR STEP .....
C .....
C .....
00342 50      CONTINUE
00343 IF (KSTEP.EQ.1) CALL RESTOM (ND,JS2)
C .....
C .....
C ..... NORMALIZE Q(NB) AT POLES .....
C .....
C .....
00344 60      CONTINUE
00345 IF (MJ(JS2).NE.0) CALL POLOUT (NB,MJ(JS2))
00346 IF (J.LT.JM) GO TO 70
00347 JS2 = JS2 + 1
00348 IF (JS2.LE.JNP) GO TO 30
00349 70      CONTINUE
00350 JS2 = JS1
00351 JS1 = J
00352 JP1 = JP2
00353 JP2 = JP2 + 1
00354 80      CONTINUE
00355 RETURN
00356 END

```

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SCOMP0 158
SCOMP0 159
SCOMP0 160
SCOMP0 161
SCOMP0 162
SCOMP0 163
SCOMP0 164
SCOMP0 165
SCOMP0 166
SCOMP0 167
SCOMP0 168
SCOMP0 169
SCOMP0 170
SCOMP0 171
SCOMP0 172
SCOMP0 173
SCOMP0 174
SCOMP0 175
SCOMP0 176
SCOMP0 177
SCOMP0 178
SCOMP0 179
SCOMP0 180
SCOMP0 181
SCOMP0 182
SCOMP0 183

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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10	315	323	
10000	297		
20	324	314	320
30	328	348	
40	336	331	333
50	342	339	
60	344	341	
70	349	327	346
80	354	310	

VARIABLE MAP
--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES	A	C	I	R	S	W
ADATE	CCNTRL	CHAR*8	SIMPLE	3	16					
ADLDP	RDPARM	REAL	SIMPLE	206						
ALBEDO	QANDQT	REAL	ARRAY	244	262					
APHEL	RCNTRL	REAL	SIMPLE	146						
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17					
BETA	RCNTRL	REAL	SIMPLE	147						
CALTOJ	RCNTRL	REAL	SIMPLE	185						
CC	CCNTRL	CHAR*8	ARRAY	14	15					
CCO	CCNTRL	CHAR*8	SIMPLE	2	14					
CCNTRL	REAL	UNKNOWN		2	3	15	4	5	6	7
				13						
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20					
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21					
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22					
COMPO			SUBROUTINE	1						
CON1	RDPARM	REAL	SIMPLE	207	298					
CON1DT	RDPARM	REAL	SIMPLE	208	298/S					
CON2	RDPARM	REAL	SIMPLE	209	299					
CON2DT	RDPARM	REAL	SIMPLE	210	299/S					
CON3	RDPARM	REAL	SIMPLE	211	300					
CON3DT	RDPARM	REAL	SIMPLE	212	300/S					
CON4	RDPARM	REAL	SIMPLE	213	301					
CON4DT	RDPARM	REAL	SIMPLE	214	301/S					
CONS	RDPARM	REAL	SIMPLE	215						
COSD	RCNTRL	REAL	SIMPLE	148						
COSL	RDPARM	REAL	ARRAY	216						
COSLON	RDPARM	REAL	ARRAY	217						
CP	RCNTRL	REAL	SIMPLE	149						

COMPO 9

[illegible]

J		INTEGER	SIMPLE	310/C	312	313	325	326	327	346	351								
JC	IDPARM	INTEGER	ARRAY	193															
JE	IDPARM	INTEGER	ARRAY	194															
JIC	ICNTRL	CHAR*8	SIMPLE	5	18														
JM	ICNTRL	INTEGER	SIMPLE	30	310	313	346												
JMD2	ICNTRL	INTEGER	SIMPLE	31															
JMT2	ICNTRL	INTEGER	SIMPLE	32															
JNP	ICNTRL	INTEGER	SIMPLE	33	348														
JO4	ICNTRL	INTEGER	SIMPLE	34															
JO8	ICNTRL	INTEGER	SIMPLE	35															
JO8	ICNTRL	CHAR*8	SIMPLE	6	19														
JP	IDPARM	INTEGER	ARRAY	195															
JP1		INTEGER	SIMPLE	308/S	321/S	352/S													
JP2		INTEGER	SIMPLE	309/S	316	317	318	319	320	321	322/S	322	352	353					
JS1		INTEGER	SIMPLE	353															
JS2		INTEGER	SIMPLE	307/S	350	351/S													
JSP		INTEGER	SIMPLE	305/S	329	330	332	334	337	338	338	340	343	345					
KLIALB	ICNTRL	INTEGER	SIMPLE	345	347/S	347	348	350/S											
KLIGW	ICNTRL	INTEGER	SIMPLE	36															
KLISST	ICNTRL	INTEGER	SIMPLE	37															
KS	ICNTRL	INTEGER	SIMPLE	38															
KSTEP	IDPARM	INTEGER	SIMPLE	39															
KU	ICNTRL	INTEGER	SIMPLE	40															
LC	LCNTRL	LOGICAL	ARRAY	196	316	317	340	343											
LC0	LCNTRL	LOGICAL	SIMPLE	41															
LCNTRL		INTEGER	UNKNOWN	143	144														
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	92	143	144													
LDPARM		INTEGER	UNKNOWN	92	93	94	95	96	97	98	99	100	101	102					
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	103	104														
LFUSION	LCNTRL	LOGICAL	UNKNOWN	116	141														
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	200	201	202													
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	110	135														
LOGBR	LCNTRL	LOGICAL	UNKNOWN	111	136														
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	109	134														
LPREACC	LCNTRL	LOGICAL	UNKNOWN	114	139														
LPRECON	LCNTRL	LOGICAL	UNKNOWN	42															
LQS	LCNTRL	LOGICAL	ARRAY	115	140														
LQU	LCNTRL	LOGICAL	ARRAY	107	132														
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	108	133														
LRADSW	LCNTRL	LOGICAL	UNKNOWN	109	105	106	107	108	109	110	111	112	113	114					
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	128															
LTMAX	LCNTRL	LOGICAL	UNKNOWN	104	115	116	117	129											
LTMIN	LCNTRL	LOGICAL	UNKNOWN	113	138														
M		INTEGER	SIMPLE	117	142														
MATIN	ICNTRL	INTEGER	SIMPLE	112	137														
MATSNX	ICNTRL	INTEGER	SIMPLE	106	131														
MATSUN	ICNTRL	INTEGER	SIMPLE	105	130														
MJ	IDPARM	INTEGER	ARRAY	311/S	312/S	313/S	314												
MLF	ICNTRL	INTEGER	ARRAY	43															
MROD	ICNTRL	INTEGER	SIMPLE	44															
MSM	ICNTRL	INTEGER	SIMPLE	45	339														
NB	ICNTRL	INTEGER	SIMPLE	197	345	345													
ND	ICNTRL	INTEGER	SIMPLE	46															
NDALT	ICNTRL	INTEGER	SIMPLE	47															
NDAY	ICNTRL	INTEGER	SIMPLE	49															
NDHOG	ICNTRL	INTEGER	SIMPLE	50	316	317	318	332	337	345									
NDOUT	ICNTRL	INTEGER	SIMPLE	51	316	319	343												
NDPHY	ICNTRL	INTEGER	SIMPLE	52															
NDRSW	ICNTRL	INTEGER	SIMPLE	53															
NDSHF	ICNTRL	INTEGER	SIMPLE	74															
NDT	ICNTRL	INTEGER	SIMPLE	54															
NHMS	ICNTRL	INTEGER	SIMPLE	55															
NHMS0	ICNTRL	INTEGER	SIMPLE	29															
NHMS1	IDPARM	INTEGER	SIMPLE	56															
NHMSE	ICNTRL	INTEGER	SIMPLE	57															

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Variable	Type	Value
NKRSH	ICNTRL	INTEGER SIMPLE 48
NLAY	ICNTRL	INTEGER SIMPLE 61
NLAYM1	ICNTRL	INTEGER SIMPLE 62
NLAYP1	ICNTRL	INTEGER SIMPLE 63
NMLEV	ICNTRL	INTEGER SIMPLE 73
NSDAY	ICNTRL	INTEGER SIMPLE 64
NSEQ	ICNTRL	INTEGER SIMPLE 65
NSTEP	ICNTRL	INTEGER SIMPLE 67
NYMD	ICNTRL	INTEGER SIMPLE 69
NYMD0	ICNTRL	INTEGER SIMPLE 71
NYMD1	IDPARM	INTEGER SIMPLE 199
NYMDE	ICNTRL	INTEGER SIMPLE 70
NZINIT	ICNTRL	INTEGER SIMPLE 72
OMEGA	QANDQT	REAL ARRAY 284 293
OMEGA2	RCNTRL	REAL SIMPLE 161
P	QANDQT	REAL ARRAY 249 267 332
PHI	QANDQT	REAL ARRAY 283 292
PHIS	QANDQT	REAL ARRAY 242 260
PI	RCNTRL	REAL SIMPLE 162
PI180	RCNTRL	REAL SIMPLE 163
PI2	RCNTRL	REAL SIMPLE 164
PMEAN	RCNTRL	REAL SIMPLE 166
PKSTD	RDPARM	REAL SIMPLE 227
PKTOP	RDPARM	REAL SIMPLE 228
PLEVS	RCNTRL	REAL ARRAY 180
PREACC	QANDQT	REAL ARRAY 252 270
PRECQN	QANDQT	REAL ARRAY 253 271
PS	REAL	SIMPLE 332/S 333 333
PSMAX	RCNTRL	REAL SIMPLE 167 333
PSMIN	RCNTRL	REAL SIMPLE 168 333
PSTD	RCNTRL	REAL SIMPLE 165
PTOP	RCNTRL	REAL SIMPLE 169 332
PZERO	RCNTRL	REAL SIMPLE 186
QALT	LCNTRL	LOGICAL SIMPLE 93 118
QANDQT	REAL	UNKNOWN 241 278
QBEG	LCNTRL	LOGICAL SIMPLE 94 119
QDAY	LCNTRL	LOGICAL SIMPLE 95 120
QEND	LCNTRL	LOGICAL SIMPLE 96 121
QOUT	LCNTRL	LOGICAL SIMPLE 97 122
QPHY	LCNTRL	LOGICAL SIMPLE 98 123
QRSH	LCNTRL	LOGICAL SIMPLE 102 127
QRSW	LCNTRL	LOGICAL SIMPLE 101 126
QS	QANDQT	REAL ARRAY 241 260 261 262 263 264 265 266 267 268 269
QSHF	LCNTRL	LOGICAL SIMPLE 99 124
QU	QANDQT	REAL ARRAY 278 288 290 291 292 293 294 295 296
RADE	RCNTRL	REAL SIMPLE 170
RADLW	QANDQT	REAL ARRAY 287 296
RADLWG	QANDQT	REAL ARRAY 258 276
RADSW	QANDQT	REAL ARRAY 286 295
RADSWG	QANDQT	REAL ARRAY 257 275
RC	RCNTRL	REAL ARRAY 187 188
RCO	RCNTRL	REAL SIMPLE 145 187 188
RCNTRL	REAL	UNKNOWN 146 147 148 149 150 151 152 153 154 155
		156 157 158 159 160 161 162 163 164 165 166
		167 168 169 170 171 172 173 174 175 176 177
		178 179 180 181 182 183 184 185 186 187 188
RDPARM	REAL	UNKNOWN 206 207 208 209 210 211 212 213 214 215 216
		217 218 219 220 221 222 223 224 225 226 227
		228 229 230 231 232 233 234 235 236 237 238
		239 240
RGAS	RCNTRL	REAL SIMPLE 171
RLAT	RDPARM	REAL ARRAY 229
RLATD	RDPARM	REAL ARRAY 230
ROCP	RCNTRL	REAL SIMPLE 172
ROCPDT	RDPARM	REAL SIMPLE 231
ROCPP1	RDPARM	REAL SIMPLE 232
RSDIST	RCNTRL	REAL SIMPLE 173
SDAY	RCNTRL	REAL SIMPLE 174
SEASON	RCNTRL	REAL SIMPLE 175

SGNP	RDPARM	REAL	ARRAY	233	
SH	QANDQT	REAL	ARRAY	282	291
SHS	QANDQT	REAL	ARRAY	248	266
SIG	RDPARM	REAL	ARRAY	240	
SIGE	RCNTRL	REAL	ARRAY	176	
SIND	RCNTRL	REAL	SIMPLE	177	
SINL	RDPARM	REAL	ARRAY	234	
SINLON	RDPARM	REAL	ARRAY	235	
SMTH	QANDQT	REAL	ARRAY	243	261
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125
SOLS	RCNTRL	REAL	SIMPLE	178	
START	LDARM	LOGICAL	SIMPLE	202	205
T	QANDQT	REAL	ARRAY	281	290
THSTD	RDPARM	REAL	SIMPLE	236	
THSTD2	RDPARM	REAL	SIMPLE	237	
TMAX	QANDQT	REAL	ARRAY	251	269
TMIN	QANDQT	REAL	ARRAY	250	268
TS	QANDQT	REAL	ARRAY	247	265
TSTD	RCNTRL	REAL	SIMPLE	179	
U	QANDQT	REAL	ARRAY	279	288
V	QANDQT	REAL	ARRAY	280	289
VER	CCNTRL	CHAR*8	SIMPLE	10	23
WSAVE	RDPARM	REAL	ARRAY	238	
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES
------	------	-------	------------

D=STMT FN DEF, A=ARGLIST

AVRX	SUBROUTINE	338	
COMP1	SUBROUTINE	325	
COMP2	SUBROUTINE	326	
COPYQ	SUBROUTINE	316	
GEOHT	SUBROUTINE	319	
POLOUT	SUBROUTINE	345	
PRDIAG	SUBROUTINE	334	
RESTQM	SUBROUTINE	343	
SAVEQM	SUBROUTINE	317	
CALEQ	SUBROUTINE	318	337
SHCORN	SUBROUTINE	329	
TIMAVG	SUBROUTINE	340	

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00001 SUBROUTINE COMP1 (J) SCOMP1 2
C ..... SCOMP1 3
C PURPOSE SCOMP1 4
C INTEGRATE THE DIFFERENTIAL FIELDS IN THE HORIZONTAL SCOMP1 5
C ADVECTION EQUATION, THE VERTICAL ADVECTION EQUATION, SCOMP1 6
C AND THE CONTINUITY EQUATION TO PREDICT THE BASE SCOMP1 7
C FIELDS ONE TIME STEP FORWARD. SCOMP1 8
C FOR BAND J (OR IF J=JM, FOR BANDS J AND J+1). SCOMP1 9
C CALLED BY MAIN (COMPO) ONLY SCOMP1 10
C USAGE SCOMP1 11
C ARGUMENTS DESCRIPTION SCOMP1 12
C J LATITUDE BAND NUMBER SCOMP1 13
C SUBPROGRAMS NEEDED SCOMP1 14
C NAME DESCRIPTION SCOMP1 15
C EXPBYK COMPUTES P**KAPPA AND KAPPA=.2861328125 SCOMP1 16
C RECORD OF MODIFICATIONS SCOMP1 17
C BASED ON OLD VERSION 8. SCOMP1 18
C ?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS? SCOMP1 19
C 04/28/83 RAMESH THIS PART AND COMMENTS SCOMP1 20
C REMARKS: SCOMP1 21
C ( 1 ) ?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.? SCOMP1 22
C ..... SCOMP1 23
C M / A - C O M S I G M A D A T A I N C . N A S A - G S F C SCOMP1 24
C ..... SCOMP1 25
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD SCOMP1 26
C ..... SCOMP1 27
00002 COMMON /CCNTRL/ CC0 SCNTRL 2
00003 COMMON /CCNTRL/ ADATE SCNTRL 3
00004 COMMON /CCNTRL/ ATIME SCNTRL 4
00005 COMMON /CCNTRL/ JIC SCNTRL 5
00006 COMMON /CCNTRL/ JOB SCNTRL 6
00007 COMMON /CCNTRL/ CCSP06 SCNTRL 7
00008 COMMON /CCNTRL/ CCSP07 SCNTRL 8
00009 COMMON /CCNTRL/ CCSP08 SCNTRL 9
00010 COMMON /CCNTRL/ VER SCNTRL 10
00011 COMMON /CCNTRL/ XLABEL (10) SCNTRL 11
00012 COMMON /CCNTRL/ CQS (30) SCNTRL 12
00013 COMMON /CCNTRL/ CQU (10) SCNTRL 13
C SCNTRL 14
00014 EQUIVALENCE (CC0,CC(1)) SCNTRL 15
00015 CHARACTER*8 CC0, CC(200) SCNTRL 16
00016 CHARACTER*8 ADATE SCNTRL 17
00017 CHARACTER*8 ATIME SCNTRL 18
00018 CHARACTER*8 JIC SCNTRL 19
00019 CHARACTER*8 JOB SCNTRL 20
00020 CHARACTER*8 CCSP06 SCNTRL 21
00021 CHARACTER*8 CCSP07 SCNTRL 22
00022 CHARACTER*8 CCSP08 SCNTRL 23
00023 CHARACTER*8 VER SCNTRL 24
00024 CHARACTER*8 XLABEL SCNTRL 25
C SCNTRL 26
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD SCNTRL 27
C ..... SCNTRL 28
00025 COMMON /ICNTRL/ IC0 SCNTRL 29
00026 COMMON /ICNTRL/ IM SCNTRL 30
00027 COMMON /ICNTRL/ IMD2 SCNTRL 31
00028 COMMON /ICNTRL/ IMD2P1 SCNTRL 32
00029 COMMON /ICNTRL/ NDRSW SCNTRL 33
00030 COMMON /ICNTRL/ JM SCNTRL 34
00031 COMMON /ICNTRL/ JMD2 SCNTRL 35
00032 COMMON /ICNTRL/ JMT2 SCNTRL 36
00033 COMMON /ICNTRL/ JNP SCNTRL 37
00034 COMMON /ICNTRL/ JO4 SCNTRL 38

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00035	COMMON /ICNTRL/ JOB	SCNTRL 42
00036	COMMON /ICNTRL/ JSP	SCNTRL 43
00037	COMMON /ICNTRL/ KLIALB	SCNTRL 44
00038	COMMON /ICNTRL/ KLIGW	SCNTRL 45
00039	COMMON /ICNTRL/ KLISS	SCNTRL 46
00040	COMMON /ICNTRL/ KS	SCNTRL 47
00041	COMMON /ICNTRL/ KU	SCNTRL 48
00042	COMMON /ICNTRL/ LOGER	SCNTRL 49
00043	COMMON /ICNTRL/ MATIN	SCNTRL 50
00044	COMMON /ICNTRL/ MATSNX	SCNTRL 51
00045	COMMON /ICNTRL/ MATSUN	SCNTRL 52
00046	COMMON /ICNTRL/ MLF (12)	SCNTRL 53
00047	COMMON /ICNTRL/ MROD	SCNTRL 54
00048	COMMON /ICNTRL/ NKRSH	SCNTRL 55
00049	COMMON /ICNTRL/ MSM	SCNTRL 56
00050	COMMON /ICNTRL/ NB	SCNTRL 57
00051	COMMON /ICNTRL/ ND	SCNTRL 58
00052	COMMON /ICNTRL/ NDALT	SCNTRL 59
00053	COMMON /ICNTRL/ NDAY	SCNTRL 60
00054	COMMON /ICNTRL/ NDOUT	SCNTRL 61
00055	COMMON /ICNTRL/ NDPHY	SCNTRL 62
00056	COMMON /ICNTRL/ NDSHF	SCNTRL 63
00057	COMMON /ICNTRL/ NDT	SCNTRL 64
00058	COMMON /ICNTRL/ NHMS	SCNTRL 65
00059	COMMON /ICNTRL/ NHMSE	SCNTRL 66
00060	COMMON /ICNTRL/ NHMSO	SCNTRL 67
00061	COMMON /ICNTRL/ NLAY	SCNTRL 68
00062	COMMON /ICNTRL/ NLAYM1	SCNTRL 69
00063	COMMON /ICNTRL/ NLAYF1	SCNTRL 70
00064	COMMON /ICNTRL/ NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
C		SCNTRL 84
00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 85
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 86
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 87
00080	EQUIVALENCE (IPRECUN ,IQS(4))	SCNTRL 88
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 89
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 91
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 92
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 93
00086	EQUIVALENCE (IICLOUD ,IQS(10))	SCNTRL 94
C		SCNTRL 95
00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 96
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 97
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 98
C		SCNTRL 99
00090	EQUIVALENCE (ICO,IC(1))	SCNTRL 100
00091	INTEGER ICO, IC(200)	SCNTRL 101
C		SCNTRL 102
C LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD		SCNTRL 103
C =====		SCNTRL 104
00092	COMMON /LCNTRL/ LCO	SCNTRL 105
00093	COMMON /LCNTRL/ QALT	SCNTRL 106
00094	COMMON /LCNTRL/ QBEG	SCNTRL 107
00095	COMMON /LCNTRL/ QDAY	SCNTRL 108
00096	COMMON /LCNTRL/ QEND	SCNTRL 109
00097	COMMON /LCNTRL/ QOUT	SCNTRL 110
00098	COMMON /LCNTRL/ QPHY	SCNTRL 111
00099	COMMON /LCNTRL/ QSHF	SCNTRL 112

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00100	COMMON	/LCNTRL/	SN2FLG	SCNTRL	113
00101	COMMON	/LCNTRL/	QRSW	SCNTRL	114
00102	COMMON	/LCNTRL/	QRSH	SCNTRL	115
00103	COMMON	/LCNTRL/	LQS(30)	SCNTRL	116
00104	COMMON	/LCNTRL/	LQU(10)	SCNTRL	117
	C			SCNTRL	118
00105	EQUIVALENCE	(LTMIN	,LQS(1))	SCNTRL	119
00106	EQUIVALENCE	(LTMAX	,LQS(2))	SCNTRL	120
00107	EQUIVALENCE	(LPREACC	,LQS(3))	SCNTRL	121
00108	EQUIVALENCE	(LPRECON	,LQS(4))	SCNTRL	122
00109	EQUIVALENCE	(LHFLUX	,LQS(5))	SCNTRL	123
00110	EQUIVALENCE	(LEFLUX	,LQS(6))	SCNTRL	124
00111	EQUIVALENCE	(LFUSION	,LQS(7))	SCNTRL	125
00112	EQUIVALENCE	(LRADSWG	,LQS(8))	SCNTRL	126
00113	EQUIVALENCE	(LRADLWG	,LQS(9))	SCNTRL	127
00114	EQUIVALENCE	(LICLOUD	,LQS(10))	SCNTRL	128
	C			SCNTRL	129
00115	EQUIVALENCE	(LOMEGA	,LQU(1))	SCNTRL	130
00116	EQUIVALENCE	(LDIABAT	,LQU(2))	SCNTRL	131
00117	EQUIVALENCE	(LRADSW	,LQU(3))	SCNTRL	132
	C			SCNTRL	133
00118	LOGICAL	QALT		SCNTRL	134
00119	LOGICAL	QBEG		SCNTRL	135
00120	LOGICAL	QDAY		SCNTRL	136
00121	LOGICAL	QEND		SCNTRL	137
00122	LOGICAL	QOUT		SCNTRL	138
00123	LOGICAL	QPHY		SCNTRL	139
00124	LOGICAL	QSHF		SCNTRL	140
00125	LOGICAL	SN2FLG		SCNTRL	141
00126	LOGICAL	QRSW		SCNTRL	142
00127	LOGICAL	QRSH		SCNTRL	143
	C			SCNTRL	144
00128	LOGICAL	LQS		SCNTRL	145
00129	LOGICAL	LQU		SCNTRL	146
00130	LOGICAL	LTMIN		SCNTRL	147
00131	LOGICAL	LTMAX		SCNTRL	148
00132	LOGICAL	LPREACC		SCNTRL	149
00133	LOGICAL	LPRECON		SCNTRL	150
00134	LOGICAL	LHFLUX		SCNTRL	151
00135	LOGICAL	LEFLUX		SCNTRL	152
00136	LOGICAL	LFUSION		SCNTRL	153
00137	LOGICAL	LRADSWG		SCNTRL	154
00138	LOGICAL	LRADLWG		SCNTRL	155
00139	LOGICAL	LICLOUD		SCNTRL	156
	C			SCNTRL	157
00140	LOGICAL	LOMEGA		SCNTRL	158
00141	LOGICAL	LDIABAT		SCNTRL	159
00142	LOGICAL	LRADSW		SCNTRL	160
	C			SCNTRL	161
00143	EQUIVALENCE	(LCO,LG(1))		SCNTRL	162
00144	LOGICAL	LCO, LG(200)		SCNTRL	163
	C			SCNTRL	164
	C			SCNTRL	165
	C			SCNTRL	166
	C			SCNTRL	167
00145	COMMON	/RCNTRL/	RCO	SCNTRL	168
00146	COMMON	/RCNTRL/	APHEL	SCNTRL	169
00147	COMMON	/RCNTRL/	BETA	SCNTRL	170
00148	COMMON	/RCNTRL/	COSD	SCNTRL	171
00149	COMMON	/RCNTRL/	CP	SCNTRL	172
00150	COMMON	/RCNTRL/	DAYSPLY	SCNTRL	173
00151	COMMON	/RCNTRL/	DEC	SCNTRL	174
00152	COMMON	/RCNTRL/	DECMAX	SCNTRL	175
00153	COMMON	/RCNTRL/	DIST	SCNTRL	176
00154	COMMON	/RCNTRL/	DLAT	SCNTRL	177
00155	COMMON	/RCNTRL/	DLOD	SCNTRL	178
00156	COMMON	/RCNTRL/	DT	SCNTRL	179
00157	COMMON	/RCNTRL/	ECCN	SCNTRL	180
00158	COMMON	/RCNTRL/	GNU1	SCNTRL	181
00159	COMMON	/RCNTRL/	GNU2	SCNTRL	182
00160	COMMON	/RCNTRL/	GRAV	SCNTRL	183
00161	COMMON	/RCNTRL/	ORGA2		

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00162      COMMON /RCNTRL/ P1
00163      COMMON /RCNTRL/ P1180
00164      COMMON /RCNTRL/ P12
00165      COMMON /RCNTRL/ PSTD
00166      COMMON /RCNTRL/ P1MEAN
00167      COMMON /RCNTRL/ PSMAX
00168      COMMON /RCNTRL/ PSMIN
00169      COMMON /RCNTRL/ P1OP
00170      COMMON /RCNTRL/ RADE
00171      COMMON /RCNTRL/ RGAS
00172      COMMON /RCNTRL/ ROCF
00173      COMMON /RCNTRL/ RSDIST
00174      COMMON /RCNTRL/ SDAY
00175      COMMON /RCNTRL/ SEASON
00176      COMMON /RCNTRL/ SIGE      (25)
00177      COMMON /RCNTRL/ SIND
00178      COMMON /RCNTRL/ SOLS
00179      COMMON /RCNTRL/ TSTD
00180      COMMON /RCNTRL/ PLEVS      (25)
00181      COMMON /RCNTRL/ HEATW
00182      COMMON /RCNTRL/ HEATI
00183      COMMON /RCNTRL/ EPS
00184      COMMON /RCNTRL/ EPSFAC
00185      COMMON /RCNTRL/ CALTOJ
00186      COMMON /RCNTRL/ PZERO

C
00187      EQUIVALENCE      (RC0,RC(1))
00188      REAL              (RC0, RC(200))

C
C   INTEGER MODEL CONSTANTS
C   =====
00189      COMMON /IDPARM/ IJUMP      (46)
00190      COMMON /IDPARM/ IDSP02
00191      COMMON /IDPARM/ INDEX      (72)
00192      COMMON /IDPARM/ IROD
00193      COMMON /IDPARM/ JC          (46)
00194      COMMON /IDPARM/ JE          (2)
00195      COMMON /IDPARM/ JP          (2,2)
00196      COMMON /IDPARM/ KSTEP
00197      COMMON /IDPARM/ MJ          (46)
00198      COMMON /IDPARM/ NHMS1
00199      COMMON /IDPARM/ NYMD1

C
C   LOGICAL MODEL CONSTANTS
C   =====
00200      COMMON /LDPARM/ FILTER      (46)
00201      COMMON /LDPARM/ ITAPE
00202      COMMON /LDPARM/ START

C
00203      LOGICAL      FILTER
00204      LOGICAL      ITAPE
00205      LOGICAL      START

C
C   REAL MODEL CONSTANTS
C   =====
00206      COMMON /RDPARM/ ADLDP
00207      COMMON /RDPARM/ CON1
00208      COMMON /RDPARM/ CON1DT
00209      COMMON /RDPARM/ CON2
00210      COMMON /RDPARM/ CON2DT
00211      COMMON /RDPARM/ CON3
00212      COMMON /RDPARM/ CON3DT
00213      COMMON /RDPARM/ CON4
00214      COMMON /RDPARM/ CON4DT
00215      COMMON /RDPARM/ CON5
00216      COMMON /RDPARM/ COSL      (46)
00217      COMMON /RDPARM/ COSLON      (72)
00218      COMMON /RDPARM/ CPD2
00219      COMMON /RDPARM/ DXP          (46)
00220      COMMON /RDPARM/ DXYP        (46)
00221      COMMON /RDPARM/ DYP          (46)

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00222 COMMON /RDPARM/ FCJRLS (46)
 00223 COMMON /RDPARM/ F1DT
 00224 COMMON /RDPARM/ F2DT
 00225 COMMON /RDPARM/ H1DT
 00226 COMMON /RDPARM/ H2DT
 00227 COMMON /RDPARM/ PKSTD
 00228 COMMON /RDPARM/ PKTOP
 00229 COMMON /RDPARM/ RLAT (46)
 00230 COMMON /RDPARM/ RLATD (46)
 00231 COMMON /RDPARM/ ROCPTD
 00232 COMMON /RDPARM/ ROCPPI
 00233 COMMON /RDPARM/ SGNP (2)
 00234 COMMON /RDPARM/ SINL (46)
 00235 COMMON /RDPARM/ SINLON (72)
 00236 COMMON /RDPARM/ THSTD
 00237 COMMON /RDPARM/ THSTD2
 00238 COMMON /RDPARM/ WSAVE (159)
 00239 COMMON /RDPARM/ DSIG (9)
 00240 COMMON /RDPARM/ SIG (9)

C
 C
 C GLOBAL MODEL SURFACE FIELDS
 COMMON /QANDQT/ QS(72,19,46)

00241
 C
 00242 DIMENSION PHIS(1368,1)
 00243 DIMENSION SMTH(1368,23)
 00244 DIMENSION ALBEDO(1368,1)
 00245 DIMENSION GT(1368,1)
 00246 DIMENSION GW(1368,1)
 00247 DIMENSION TS(1368,1)
 00248 DIMENSION SHS(1368,1)
 00249 DIMENSION P(72,19,1)
 00250 DIMENSION TMIN(1368,1)
 00251 DIMENSION TMAX(1368,1)
 00252 DIMENSION PREACC(1368,1)
 00253 DIMENSION PRECON(1368,1)
 00254 DIMENSION HFLUX(1368,1)
 00255 DIMENSION EFLUX(1368,1)
 00256 DIMENSION FUSION(1368,1)
 00257 DIMENSION RADSWG(1368,1)
 00258 DIMENSION RADLWG(1368,1)
 00259 DIMENSION ICLOUD(1368,1)
 C
 00260 EQUIVALENCE (QS(1,1,1),PHIS(1,1))
 00261 EQUIVALENCE (QS(1,2,1),SMTH(1,1))
 00262 EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))
 00263 EQUIVALENCE (QS(1,4,1),GT(1,1))
 00264 EQUIVALENCE (QS(1,5,1),GW(1,1))
 00265 EQUIVALENCE (QS(1,6,1),TS(1,1))
 00266 EQUIVALENCE (QS(1,7,1),SHS(1,1))
 00267 EQUIVALENCE (QS(1,8,1),P(1,1,1))
 00268 EQUIVALENCE (QS(1,10,1),TMIN(1,1))
 00269 EQUIVALENCE (QS(1,11,1),TMAX(1,1))
 00270 EQUIVALENCE (QS(1,12,1),PREACC(1,1))
 00271 EQUIVALENCE (QS(1,13,1),PRECON(1,1))
 00272 EQUIVALENCE (QS(1,14,1),HFLUX(1,1))
 00273 EQUIVALENCE (QS(1,15,1),EFLUX(1,1))
 00274 EQUIVALENCE (QS(1,16,1),FUSION(1,1))
 00275 EQUIVALENCE (QS(1,17,1),RADSWG(1,1))
 00276 EQUIVALENCE (QS(1,18,1),RADLWG(1,1))
 00277 EQUIVALENCE (QS(1,19,1),ICLOUD(1,1))

C
 C GLOBAL MODEL UPPER-AIR FIELDS
 COMMON /QANDQT/ QU(72,9,14,46)

00278
 C
 00279 DIMENSION U(72,9,14,1)
 00280 DIMENSION V(72,9,14,1)
 00281 DIMENSION T(72,9,14,1)
 00282 DIMENSION SH(72,9,14,1)
 00283 DIMENSION PHI(72,9,14,1)
 00284 DIMENSION OMEGA(72,126,1)

SCNTRL 255
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00285      DIMENSION      DIABAT(72,126,1)
00286      DIMENSION      RADSW(72,126,1)
00287      DIMENSION      RADLW(72,126,1)
00288      C
00289      EQUIVALENCE      (QU(1,1,1,1),U(1,1,1,1))
00290      EQUIVALENCE      (QU(1,1,3,1),V(1,1,1,1))
00291      EQUIVALENCE      (QU(1,1,5,1),T(1,1,1,1))
00292      EQUIVALENCE      (QU(1,1,7,1),SH(1,1,1,1))
00293      EQUIVALENCE      (QU(1,1,9,1),PHI(1,1,1,1))
00294      EQUIVALENCE      (QU(1,1,11,1),OMEGA(1,1,1))
00295      EQUIVALENCE      (QU(1,1,12,1),DIABAT(1,1,1))
00296      EQUIVALENCE      (QU(1,1,13,1),RADSW(1,1,1))
00297      EQUIVALENCE      (QU(1,1,14,1),RADLW(1,1,1))
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00366      SH(IP1,LNB,1,J) = SH(IP1,LNB,1,J) + QFLUX2
00367      SH(I,LNB,1,J) = SH(I,LNB,1,J) + QFLUX1
00368      SH(IS1,LNB,1,J) = SH(IS1,LNB,1,J) - QFLUX1 - QFLUX2
00369          IF (J.EQ.JM) GO TO 50
00370          GO TO 30

```

```

C .....
C *      SOUTH POLE CORRECTION      *
C .....

```

```

00371      20      CONTINUE
00372      CONV(I,L,KP1) = 0.
00373      CONV(I,L,K) = 0.
00374      PV(I,L,K) = DXP(J)*P(I,ND,J)*V(I,LND,1,J)
00375      PV(I,L,KP1) = DXP(JP1)*P(I,ND,JP1)*V(I,LND,1,JP1)

```

```
*****  
*****  
***** HORIZONTAL ADVECTION IN LATITUDINAL DIRECTION *****  
***** CALCULATE PV *****  
*****  
*****
```

```

00376      30      CONTINUE
00377      PV(I,L,KP2) = DXP(JP2)*P(I,ND,JP2)*V(I,LND,1,JP2)
00378      PV1 = PV(I,L,K) * PV(I,L,KP1)
00379      PV2 = PV(I,L,K) * PV(I,L,KP2)
00380      FLUX1 = H1DT*PV1
00381      FLUX2 = H2DT*PV2

```

[illegible]

```

00382      QFLUX1 = FLUX1*(U(I,LND,1,J) + U(I,LND,1,JP1))
00383      QFLUX2 = FLUX2*(U(I,LND,1,J) + U(I,LND,1,JP2))
00384      U(I,LNB,1,JP2) = U(I,LNB,1,JP2) + QFLUX2
00385      U(I,LNB,1,JP1) = U(I,LNB,1,JP1) + QFLUX1
00386      U(I,LNB,1,J) = U(I,LNB,1,J) - QFLUX1 - QFLUX2

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*****
***** V WIND ADVECTION *****
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00387      QFLUX1 = FLUX1*(V(I,LND,1,J) + V(I,LND,1,JP1))
00388      QFLUX2 = FLUX2*(V(I,LND,1,J) + V(I,LND,1,JP2))
00389      V(I,LNB,1,JP2) = V(I,LNB,1,JP2) + QFLUX2
00390      V(I,LNB,1,JP1) = V(I,LNB,1,JP1) + QFLUX1
00391      V(I,LNB,1,J) = V(I,LNB,1,J) - QFLUX1 - QFLUX2

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*****  
***** TEMPERATURE ADVECTION *****  
*****
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00392      QFLUX1 = FLUX1*(T(I,LND,1,J) + T(I,LND,1,JP1))
00393      QFLUX2 = FLUX2*(T(I,LND,1,J) + T(I,LND,1,JP2))
00394      T(I,LNB,1,JP2) = T(I,LNB,1,JP2) + QFLUX2
00395      T(I,LNB,1,JP1) = T(I,LNB,1,JP1) + QFLUX1
00396      T(I,LNB,1,J) = T(I,LNB,1,J) - QFLUX1 - QFLUX2

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C *****
C *****
C ***** HUMIDITY ADVECTION *****
C *****
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00419      QFLUX1 = FLUX1*(T(I,LND,1,JM) + T(I,LND,1,JNP))
00420      T(I,LNB,1,JM) = T(I,LNB,1,JM) - QFLUX1

      .....
      HUMIDITY ADVECTION
      .....

00421      QFLUX1 = FLUX1*(SH(I,LND,1,JM) + SH(I,LND,1,JNP))
00422      IF (SH(I,LND,1,JM).GT.0.) GO TO 60
00423      QFLUX1 = AMAX1(QFLUX1,0.)
00424      60      CONTINUE
00425      IF (SH(I,LND,1,JNP).LE.0.) QFLUX1 = AMAX1(QFLUX1,0.)
00426      SH(I,LNB,1,JM) = SH(I,LNB,1,JM) - QFLUX1

      .....
      CORRECT CONVERGENCE AT CENTER BAND
      .....

00427      70      CONTINUE
00428      CONV(I,L,K) = CONV(I,L,K)*DSIG(L)
00429      IS2 = IS1
00430      IS1 = I
00431      I = IP1
00432      IP1 = IP2
00433      80      CONTINUE
00434      90      CONTINUE

      .....
      COMPUTATION OF SIGMA CHANGE IN TIME
      .....

00435      IF (J.EQ.1) GO TO 130
00436      DO 120 I=1,IM
00437      PIT(I,K) = CONV(I,NLAY,K)
00438      DO 100 L=1,NLAYM1
00439      PIT(I,K) = PIT(I,K) + CONV(I,L,K)
00440      100      CONTINUE
00441      P(I,NB,J) = P(I,NB,J) + DT*PIT(I,K)/DXYP(J)
00442      SD1 = 0.
00443      PK1 = EXPBYK(SIG(I)*P(I,NB,J)*PTOP)
00444      DO 110 L=1,NLAYM1
00445      LND = L + NLAYND
00446      LNB = L + NLAYNB
00447      LP1 = L + 1
00448      LP1ND = LP1 + NLAYND
00449      LP1NB = LP1 + NLAYNB
00450      SD(I,L,K) = SD1 + CONV(I,L,K) - DSIG(L)*PIT(I,K)
00451      SD1 = SD(I,L,K)

      .....
      VERTICAL ADVECTION OF MOMENTUM
      .....

00452      QFLUX = H2DT*SD(I,L,K)*(U(I,LND,1,J) + U(I,LP1ND,1,J))
00453      U(I,LP1NB,1,J) = U(I,LP1NB,1,J) - QFLUX/DSIG(LP1)
00454      U(I,LNB,1,J) = U(I,LNB,1,J) + QFLUX/DSIG(L)
00455      QFLUX = H2DT*SD(I,L,K)*(V(I,LND,1,J) + V(I,LP1ND,1,J))
00456      V(I,LP1NB,1,J) = V(I,LP1NB,1,J) - QFLUX/DSIG(LP1)
00457      V(I,LNB,1,J) = V(I,LNB,1,J) + QFLUX/DSIG(L)

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C *****
C ***** VERTICAL ADVECTION OF TEMPERATURE *****
C ***** P**KAPPA COMPUTED AT CENTER OF LAYER *****
C *****
00458      PK2 = EXPBYK(SIG(LP1)*P(I,ND,J)*PTOP)
00459      QFLUX = H2DT*SD(I,L,K)*(T(I,LND,1,J)/PK1 + T(I,LP1ND,1,J)/PK2)
00460      T(I,LP1NB,1,J) = T(I,LP1NB,1,J) - PK2*QFLUX/DSIG(LP1)
00461      T(I,LNB,1,J) = T(I,LNB,1,J) + PK1*QFLUX/DSIG(L)
00462      PK1 = PK2
C *****
C ***** VERTICAL ADVECTION OF MOISTURE *****
C ***** INVERSE LINEAR INTERPOLATION OF SPECIFIC HUMIDITY *****
C *****
00463      SHLE = SH(I,LND,1,J) + SH(I,LP1ND,1,J)
00464      IF (SHLE.NE.0.) SHLE = 4.*SH(I,LND,1,J)*SH(I,LP1ND,1,J)/SHLE
00465      QFLUX = H2DT*SD(I,L,K)*SHLE
00466      IF (SH(I,LND,1,J).LE.0.) QFLUX = AMAX1(QFLUX,0.)
00467      IF (SH(I,LP1ND,1,J).LE.0.) QFLUX = AMIN1(QFLUX,0.)
00468      SH(I,LP1NB,1,J) = SH(I,LP1NB,1,J) - QFLUX/DSIG(LP1)
00469      SH(I,LNB,1,J) = SH(I,LNB,1,J) + QFLUX/DSIG(L)
00470      110      CONTINUE
00471      120      CONTINUE
00472      IF (J.LT.JM) RETURN
C *****
C ***** POLE CALCULATIONS *****
C *****
00473      130      CONTINUE
00474      M = 1
00475      IF (J.EQ.JM) M = 2
00476      K = JC(JE(M))
00477      PIT(I,K) = 0.
00478      JP1 = JP(1,M)
00479      JP2 = JP(2,M)
C *****
C ***** HORIZONTAL ADVECTION OF MOMENTUM, *****
C ***** TEMPERATURE, AND SPECIFIC HUMIDITY *****
C *****
00480      DO 150 L=1,NLAY
00481      LND = L + NLAYND
00482      PV1S = 0.
00483      PVU1S = 0.
00484      PVV1S = 0.
00485      PVT1S = 0.
00486      PVH1S = 0.
00487      PV2S = 0.
00488      PVU2S = 0.
00489      PVV2S = 0.
00490      PVT2S = 0.
00491      PVH2S = 0.
00492      DO 140 I=1,IM
00493      PV1 = P(I,ND,JP1)*V(I,LND,1,JP1)
00494      PV1S = PV1S + PV1
00495      PVU1S = PVU1S + PV1*(- U(I,LND,1,JP1)*SINLON(I)
00496      & - SGNP(M)*V(I,LND,1,JP1)*COSLON(I))
00497      PVV1S = PVV1S + PV1*(- SGNP(M)*U(I,LND,1,JP1)*COSLON(I)
00498      & - V(I,LND,1,JP1)*SINLON(I))
00499      PVT1S = PVT1S + PV1*T(I,LND,1,JP1)

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00498      PVH1S = PVH1S + PV1*SH(I,LND,1,JP1)
00499      PV2 = P(I,ND,JP2)*V(I,LND,1,JP2)
00500      PV2S = PV2S + PV2
00501      PVU2S = PVU2S + PV2*(-
      &          U(I,LND,1,JP2)*SINLON(I)
      &          - SGNP(M)*V(I,LND,1,JP2)*COSLON(I))
00502      PVV2S = PVV2S + PV2*(-
      &          SGNP(M)*U(I,LND,1,JP2)*COSLON(I)
      &          - V(I,LND,1,JP2)*SINLON(I))
00503      PVT2S = PVT2S + PV2*T(I,LND,1,JP2)
00504      PVH2S = PVH2S + PV2*SH(I,LND,1,JP2)
00505      140      CONTINUE
00506      UP(L,NB,M) = UP(L,NB,M) + SGNP(M)*(CON1DT*PVU1S + CON2DT*PVU2S)
00507      VP(L,NB,M) = VP(L,NB,M) + SGNP(M)*(CON1DT*PVV1S + CON2DT*PVV2S)
00508      TP(L,NB,M) = TP(L,NB,M) + SGNP(M)*(CON1DT*PVT1S + CON2DT*PVT2S)
00509      SHP(L,NB,M) = SHP(L,NB,M) + SGNP(M)*(CON1DT*PVH1S + CON2DT*PVH2S)
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00510      CONV(I,L,K) = SGNP(M)*(CON1*PV1S + CON2*PV2S)*DSIG(L)
00511      PIT(I,K) = PIT(I,K) + CONV(I,L,K)
00512      150      CONTINUE
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00513      SD1 = 0.
00514      DO 160 L=1,NLAYM1
00515      SD(I,L,K) = SD1 + CONV(I,L,K) - DSIG(L)*PIT(I,K)
00516      SD1 = SD(I,L,K)
00517      160      CONTINUE
00518      PP(NB,M) = PP(NB,M) + DT*PIT(I,K)
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00519      PK1 = EXPBYK(SIG(I)*PP(ND,M)*PTOP)
00520      DO 170 L=1,NLAYM1
00521      LP1 = L + 1
00522      QFLUX = H2DT*SD(I,L,K)*(UP(L,ND,M) + UP(LP1,ND,M))
00523      UP(LP1,NB,M) = UP(LP1,NB,M) - QFLUX/DSIG(LP1)
00524      UP(L,NB,M) = UP(L,NB,M) + QFLUX/DSIG(L)
00525      QFLUX = H2DT*SD(I,L,K)*(VP(L,ND,M) + VP(LP1,ND,M))
00526      VP(LP1,NB,M) = VP(LP1,NB,M) - QFLUX/DSIG(LP1)
00527      VP(L,NB,M) = VP(L,NB,M) + QFLUX/DSIG(L)
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00528      PK2 = EXPBYK(SIG(LP1)*PP(ND,M)*PTOP)
00529      QFLUX = H2DT*SD(I,L,K)*(TP(L,ND,M)/PK1 + TP(LP1,ND,M)/PK2)
00530      TP(LP1,NB,M) = TP(LP1,NB,M) - PK2*QFLUX/DSIG(LP1)
00531      TP(L,NB,M) = TP(L,NB,M) + PK1*QFLUX/DSIG(L)
00532      PK1 = PK2
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      VERTICAL ADVECTION OF MOISTURE AT THE POLES
      INVERSE LINEAR INTERPOLATION OF SPECIFIC HUMIDITY
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10	363	360
100	440	438
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110	470	444
120	471	436
130	473	435
140	505	492
150	512	480
160	517	514
170	540	520
20	371	337
30	376	370
40	402	399
50	412	369
60	424	422
70	427	411
80	433	336
90	434	322

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DAYSPLY	RCNTRL	REAL	SIMPLE	150															
DEC	RCNTRL	REAL	SIMPLE	151															
DECMAX	RCNTRL	REAL	SIMPLE	152															
DIABAT	QANDQT	REAL	ARRAY	285	294														
DIST	RCNTRL	REAL	SIMPLE	153															
DLAT	RCNTRL	REAL	SIMPLE	154															
DOLON	RCNTRL	REAL	SIMPLE	155															
DSIG	RDPARM	REAL	ARRAY	239	428	450	453	454	456	457	460	461	468	469					
				510	515	523	524	526	527	530	531	538	539						
DT	RCNTRL	REAL	SIMPLE	156															
DXP	RDPARM	REAL	ARRAY	219	374														
DXYP	RDPARM	REAL	ARRAY	220	441														
DYP	RDPARM	REAL	ARRAY	221	329	330	331	332	338										
ECCN	RCNTRL	REAL	SIMPLE	157															
EFLUX	QANDQT	REAL	ARRAY	255	273														
EPS	RCNTRL	REAL	SIMPLE	183															
EPSFAC	RCNTRL	REAL	SIMPLE	184															
F1DT	RDPARM	REAL	SIMPLE	223															
F2DT	RDPARM	REAL	SIMPLE	224															
FCORLS	RDPARM	REAL	ARRAY	222															
FILTER	LDPARM	LOGICAL	ARRAY	200															
FLUX1		REAL	SIMPLE	341/S	203	348	353	358	380/S	382	387	392	397	414					
				415	417	419	421												
FLUX2		REAL	SIMPLE	342/S	344	349	354	359	381/S	383	388	393	398						
FUSION	QANDQT	REAL	ARRAY	256	274														
GNU1	RCNTRL	REAL	SIMPLE	158															
GNU2	RCNTRL	REAL	SIMPLE	159															
GRAV	RCNTRL	REAL	SIMPLE	160															
GT	QANDQT	REAL	ARRAY	245	263														
GW	QANDQT	REAL	ARRAY	246	264														
H1DT	RDPARM	REAL	SIMPLE	225	341	380	414												
H2DT	RDPARM	REAL	SIMPLE	226	342	381	452	455	459	465	522	525	529	535					
HEATI	RCNTRL	REAL	SIMPLE	182															
HEATW	RCNTRL	REAL	SIMPLE	181															
HFLUX	QANDQT	REAL	ARRAY	254	272														
I		INTEGER	SIMPLE	327/S	331	331	331	333	334	339	339	340	340	343					
				346	346	348	351	351	353	356	356	358	364	367					
				367	372	373	374	374	374	375	375	375	377	377					
				377	378	378	379	379	382	382	383	383	384	384					
				385	385	386	386	387	387	388	388	389	389	390					
				390	391	391	392	392	393	393	394	394	395	395					
				396	396	397	397	398	398	399	403	404	405	405					
				406	406	407	407	408	409	409	410	410	410	410					
				413	413	413	413	413	414	415	415	416	416	417					
				417	418	418	419	419	420	420	421	421	422	425					
				426	426	428	428	430	431/S	436/C	437	437	439	439					
				439	441	441	441	443	450	450	450	451	452	452					
				452	453	453	454	454	455	455	455	456	456	457					
				457	458	459	459	459	460	460	461	461	463	463					
				464	464	465	465	467	468	468	469	469	492/C	493					
				493	495	495	495	495	496	496	496	496	497	498					
				499	499	501	501	501	501	502	502	502	502	503					
				504															
IC	ICNTRL	INTEGER	ARRAY	90	91														
ICO	ICNTRL	INTEGER	SIMPLE	25	90	91													
ICLOUD	QANDQT	INTEGER	ARRAY	259	277														
ICNTRL		INTEGER	UNKNOWN	25	26	27	28	29	30	31	32	33	34	35					
				36	37	38	39	40	41	42	43	44	45	46					
				47	48	49	50	51	52	53	54	55	56	57					
				58	59	60	61	62	63	64	65	66	67	68					
				69	70	71	72	73	74	75	76								
ICSP53	ICNTRL	INTEGER	SIMPLE	66															
ICSP55	ICNTRL	INTEGER	SIMPLE	68															
IDIABAT	ICNTRL	INTEGER	UNKNOWN	88															
IDPARM		INTEGER	UNKNOWN	189	190	191	192	193	194	195	196	197	198	199					
IDSP02	IDPARM	INTEGER	SIMPLE	190															
IEFLUX	ICNTRL	INTEGER	UNKNOWN	82															
IFUSION	ICNTRL	INTEGER	UNKNOWN	83															
IHFLUX	ICNTRL	INTEGER	UNKNOWN	81															

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IICLOUD	ICNTRL	INTEGER	UNKNOWN	86											
IJUMP	IDPARM	INTEGER	ARRAY	189											
IM	ICNTRL	INTEGER	SIMPLE	26	325	326	327	328	336	436	492				
IMD2	ICNTRL	INTEGER	SIMPLE	27											
IMD2P1	ICNTRL	INTEGER	SIMPLE	28											
INDEX	IDPARM	INTEGER	ARRAY	191											
IONEGA	ICNTRL	INTEGER	UNKNOWN	87											
IP1		INTEGER	SIMPLE	328/S	332	332	332	335	339	344	345	345	349	350	
				350	354	355	355	359	365	366	366	431	432/S		
IP2		INTEGER	SIMPLE	336/C	338	338	338	340	432						
IPREACC	ICNTRL	INTEGER	UNKNOWN	79											
IPRECON	ICNTRL	INTEGER	UNKNOWN	80											
IQS	ICNTRL	INTEGER	ARRAY	75	77	78	79	80	81	82	83	84	85	86	
IQU	ICNTRL	INTEGER	ARRAY	76	87	88	89								
IRADLWG	ICNTRL	INTEGER	UNKNOWN	85											
IRADSW	ICNTRL	INTEGER	UNKNOWN	89											
IRADSWG	ICNTRL	INTEGER	UNKNOWN	84											
IROD	IDPARM	INTEGER	SIMPLE	192											
IS1		INTEGER	SIMPLE	326/S	330	330	330	334	334	335	335	341	342	343	
				344	347	347	348	349	352	352	353	354	357	357	
				358	359	360	368	368	410	413	429	430/S			
IS2		INTEGER	SIMPLE	325/S	329	329	329	333	333	410	413	429/S			
ITAPE	LDPARM	LOGICAL	SIMPLE	201	204										
ITMAX	ICNTRL	INTEGER	UNKNOWN	78											
ITMIN	ICNTRL	INTEGER	UNKNOWN	77											
J		INTEGER	SIMPLE	1	317	318	319	329	329	329	330	330	330	331	
				331	331	332	332	332	337	338	338	338	343	343	
				344	344	345	345	346	346	347	347	348	348	349	
				349	350	350	351	351	352	352	353	353	354	354	
				355	355	356	356	357	357	358	358	359	359	360	
				364	365	366	366	367	367	368	368	369	374	374	
				374	382	383	386	386	387	388	391	391	392	393	
				396	396	397	398	399	407	407	435	441	441	441	
				443	452	452	453	453	454	454	455	455	456	456	
				457	457	458	459	459	460	460	461	461	463	463	
				464	464	466	467	468	468	469	472	472	475		
JC	IDPARM	INTEGER	ARRAY	193	319	320	321	476							
JE	IDPARM	INTEGER	ARRAY	194	476										
JIC	CCNTRL	CHAR*8	SIMPLE	5	18										
JM	ICNTRL	INTEGER	SIMPLE	30	369	415	416	416	417	418	418	419	420	420	
				421	422	426	426	472	475						
JMD2	ICNTRL	INTEGER	SIMPLE	31											
JMT2	ICNTRL	INTEGER	SIMPLE	32											
JNP	ICNTRL	INTEGER	SIMPLE	33	415	417	419	421	425						
JO4	ICNTRL	INTEGER	SIMPLE	34											
JOB	ICNTRL	INTEGER	SIMPLE	35											
JOB	CCNTRL	CHAR*8	SIMPLE	6	19										
JP	IDPARM	INTEGER	ARRAY	195	478	479									
JP1		INTEGER	SIMPLE	317/S	320	375	375	375	382	385	385	387	390	390	
				392	395	395	397	403	406	406	478/S	493	493	495	
				495	496	496	497	498							
JP2		INTEGER	SIMPLE	318/S	321	377	377	377	383	384	384	388	389	389	
				393	394	394	398	404	405	405	479/S	499	499	501	
				501	502	502	503	504							
JSP		INTEGER	SIMPLE	36											
K	ICNTRL	INTEGER	SIMPLE	319/S	373	374	378	379	410	410	413	413	413	414	
				428	428	437	437	439	439	439	441	450	450	450	
				451	452	455	459	477	476/S	477	510	511	511	511	
				515	515	515	516	518	522	525	529	535			
KLIALB	ICNTRL	INTEGER	SIMPLE	37											
KLIGW	ICNTRL	INTEGER	SIMPLE	38											
KLISST	ICNTRL	INTEGER	SIMPLE	39											
KP1		INTEGER	SIMPLE	320/S	372	375	378	409	409						
KP2		INTEGER	SIMPLE	321/S	377	379	408								
KS	ICNTRL	INTEGER	SIMPLE	40											
KSTEP	IDPARM	INTEGER	SIMPLE	196											
KU	ICNTRL	INTEGER	SIMPLE	41											
L		INTEGER	SIMPLE	322/C	323	324	372	373	374	375	377	378	378	379	
				379	408	409	409	410	410	413	413	413	414	428	
				428	428	438/C	439	444/C	445	446	447	450	450	450	

				481	482	484	485	487	489	481	485	489	480/C	481
				506	506	507	507	508	508	509	509	510	510	511
				514/C	515	515	515	516	520/C	521	522	522	524	524
				524	525	525	527	527	527	529	529	531	531	531
				533	534	535	536	539	539	539				
LC	LCNTRL	LOGICAL	ARRAY	143	144									
LC0	LCNTRL	LOGICAL	SIMPLE	92	143	144								
LCNTRL		INTEGER	UNKNOWN	92	93	94	95	96	97	98	99	100	101	102
				103	104									
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	116	141									
LDPARM		INTEGER	UNKNOWN	200	201	202								
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	110	135									
LFUSION	LCNTRL	LOGICAL	UNKNOWN	111	136									
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	109	134									
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	139									
LNB		INTEGER	SIMPLE	324/S	345	345	346	346	347	347	350	350	351	351
				352	352	355	355	356	356	357	357	356	366	367
				367	368	368	384	384	385	385	386	386	389	389
				390	390	391	391	394	394	395	395	396	396	405
				405	406	406	407	407	416	416	418	418	420	420
				426	426	446/S	454	454	457	457	461	461	469	469
LND		INTEGER	SIMPLE	323/S	329	330	331	332	338	343	343	344	344	348
				348	349	349	353	353	354	354	358	358	359	359
				360	364	365	374	375	377	382	382	383	383	387
				387	388	388	392	392	393	393	397	397	398	398
				399	403	404	415	415	417	417	419	419	421	421
				422	425	445/S	452	455	459	463	464	466	481/S	493
				495	495	496	496	497	498	499	501	501	502	502
				503	504									
LOGBR	ICNTRL	INTEGER	SIMPLE	42	140									
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	115	140									
LP1		INTEGER	SIMPLE	447/S	448	449	453	456	458	460	468	521/S	522	523
				523	523	525	526	526	526	528	529	530	530	530
				533	534	537	538	538	538					
LP1NB		INTEGER	SIMPLE	449/S	453	453	456	456	460	460	468	468		
LP1ND		INTEGER	SIMPLE	448/S	452	455	459	463	464	467				
LPREACC	LCNTRL	LOGICAL	UNKNOWN	107	132									
LPRECON	LCNTRL	LOGICAL	UNKNOWN	108	133									
LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114
				128										
LQU	LCNTRL	LOGICAL	ARRAY	104	115	116	117	129						
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138									
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	142									
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	112	137									
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131									
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130									
M		INTEGER	SIMPLE	474/S	475/S	476	478	479	495	496	501	502	506	506
				506	507	507	507	508	508	508	509	509	509	510
				518	518	519	522	522	523	523	524	524	525	525
				526	526	527	527	528	529	529	530	530	531	531
				533	533	534	534	536	537	538	538	539	539	
				43										
MATIN	ICNTRL	INTEGER	SIMPLE	44										
MATSNX	ICNTRL	INTEGER	SIMPLE	45										
MATSUN	ICNTRL	INTEGER	SIMPLE	46										
MJ	IDPARM	INTEGER	ARRAY	197										
MLF	ICNTRL	INTEGER	ARRAY	46										
MROD	ICNTRL	INTEGER	SIMPLE	47										
MSM	ICNTRL	INTEGER	SIMPLE	49										
NB	ICNTRL	INTEGER	SIMPLE	50	316	441	441	506	506	507	507	508	508	509
				509	518	518	523	523	524	524	526	526	527	527
				530	530	531	531	538	538	539	539			
				51	315	329	330	331	332	338	374	375	377	443
				458	493	489	519	522	525	525	528	529	529	
				533	533	534	534	536	537					
NDALT	ICNTRL	INTEGER	SIMPLE	52										
NDAY	ICNTRL	INTEGER	SIMPLE	53										
NDHOG	ICNTRL	INTEGER	SIMPLE	74										
NDOUT	ICNTRL	INTEGER	SIMPLE	54										
NDPHY	ICNTRL	INTEGER	SIMPLE	55										
NDRSW	ICNTRL	INTEGER	SIMPLE	29										

NDSHF	ICNTRL	INTEGER	SIMPLE	56																
NDT	ICNTRL	INTEGER	SIMPLE	57																
NHMS	ICNTRL	INTEGER	SIMPLE	58																
NHMS0	ICNTRL	INTEGER	SIMPLE	60																
NHMS1	IDPARM	INTEGER	SIMPLE	198																
NHMSE	ICNTRL	INTEGER	SIMPLE	59																
NKRSH	ICNTRL	INTEGER	SIMPLE	48																
NLAY	ICNTRL	INTEGER	SIMPLE	61	315	316	322	437	480											
NLAYM1	ICNTRL	INTEGER	SIMPLE	62	438	444	514	520												
NLAYNB		INTEGER	SIMPLE	316/S	324	446	449													
NLAYND		INTEGER	SIMPLE	315/S	323	445	448	481												
NLAYP1	ICNTRL	INTEGER	SIMPLE	63																
NMLEV	ICNTRL	INTEGER	SIMPLE	73																
NSDAY	ICNTRL	INTEGER	SIMPLE	64																
NSEQ	ICNTRL	INTEGER	SIMPLE	65																
NSTEP	ICNTRL	INTEGER	SIMPLE	67																
NYMD	ICNTRL	INTEGER	SIMPLE	69																
NYMD0	ICNTRL	INTEGER	SIMPLE	71																
NYMD1	IDPARM	INTEGER	SIMPLE	199																
NYMDE	ICNTRL	INTEGER	SIMPLE	70																
NZINIT	ICNTRL	INTEGER	SIMPLE	72																
OMEGA	QANDQT	REAL	ARRAY	284	293															
OMEGA2	RCNTRL	REAL	SIMPLE	161																
P	QANDQT	REAL	ARRAY	249	267	329	330	331	332	338	374	375	377	441						
				441	443	458	493	499												
PHI	QANDQT	REAL	ARRAY	283	292															
PHIM	QMSAVE	REAL	ARRAY	308																
PHIP	QPOLES	REAL	ARRAY	302																
PHIS	QANDQT	REAL	ARRAY	242	260															
PI	RCNTRL	REAL	SIMPLE	162																
PI180	RCNTRL	REAL	SIMPLE	163																
PI2	RCNTRL	REAL	SIMPLE	164																
PIMEAN	RCNTRL	REAL	SIMPLE	166																
PIT	QMSAVE	REAL	ARRAY	310	437/S	439/S	439	441	450	477/S	511/S	511	515	518						
PK1		REAL	SIMPLE	443/S	459	461	462/S	519/S	529	531	532/S									
PK2		REAL	SIMPLE	458/S	459	460	462	528/S	529	530	532									
PKSTD	RDPARM	REAL	SIMPLE	227																
PKTOP	RDPARM	REAL	SIMPLE	228																
PLEVS	RCNTRL	REAL	ARRAY	180																
PM	QMSAVE	REAL	ARRAY	303																
PP	QPOLES	REAL	ARRAY	297	518/S	518	519	528												
PREACC	QANDQT	REAL	ARRAY	252	270															
PRECON	QANDQT	REAL	ARRAY	253	271															
PSMAX	RCNTRL	REAL	SIMPLE	167																
PSMIN	RCNTRL	REAL	SIMPLE	168																
PSTD	RCNTRL	REAL	SIMPLE	165																
PTOP	RCNTRL	REAL	SIMPLE	169	443	458	519	528												
PU	//	REAL	ARRAY	313	329/S	330/S	331/S	332/S	333	333	334	334	335	335						
				338/S	339	339	340	340												
PU1	//	REAL	ARRAY	313	334/S	339/S	341	410	410	413	413									
PU2	//	REAL	ARRAY	313	333/S	335/S	340/S	342	410	410	413	413								
PV	QMSAVE	REAL	ARRAY	309	374/S	375/S	377/S	378	378	379	379	413	414							
PV1		REAL	SIMPLE	378/S	380	409	410	493/S	494	495	496	497	498							
PV1S		REAL	SIMPLE	482/S	494/S	494	510													
PV2		REAL	SIMPLE	379/S	381	408	410	499/S	500	501	502	503	504							
PV2S		REAL	SIMPLE	487/S	500/S	500	510													
PVH1S		REAL	SIMPLE	486/S	498/S	498	509													
PVH2S		REAL	SIMPLE	491/S	504/S	504	509													
PVT1S		REAL	SIMPLE	485/S	497/S	497	508													
PVT2S		REAL	SIMPLE	490/S	503/S	503	508													
PVU1S		REAL	SIMPLE	483/S	495/S	495	506													
PVU2S		REAL	SIMPLE	488/S	501/S	501	506													
PVV1S		REAL	SIMPLE	484/S	496/S	496	507													
PVV2S		REAL	SIMPLE	489/S	502/S	502	507													
PZERO	RCNTRL	REAL	SIMPLE	186																
QALT	LCNTRL	LOGICAL	SIMPLE	93	118															
QANDQT		REAL	UNKNOWN	241	278															
QBEG	LCNTRL	LOGICAL	SIMPLE	94	119															
QDAY	LCNTRL	LOGICAL	SIMPLE	95	120															
QEND	LCNTRL	LOGICAL	SIMPLE	96	121															

QFLUX		REAL	SIMPLE	452/S	453	454	455/S	456	457	459/S	460	461	465/S	466
				466	467/S	467	468	469	522/S	523	524	525/S	526	527
QFLUX1		REAL	SIMPLE	529/S	530	531	535/S	536/S	536	537/S	537	538	539	
				343/S	346	347	348/S	351	352	353/S	356	357	358/S	361
				361	364/S	364	367	368	382/S	385	386	387/S	390	391
				392/S	395	396	397/S	400/S	400	403/S	403	406	407	415
QFLUX2		REAL	SIMPLE	416	417/S	418	419/S	420	421/S	423/S	423	425/S	425	426
				344/S	345	347	349/S	350	352	354/S	355	357	359/S	362
				362	365/S	365	366	368	383/S	384	386	388/S	389	391
				393/S	394	396	398/S	401/S	401	404/S	404	405	407	
QMSAVE		REAL	UNKNOWN	303	304	305	306	307	308	309	310	311	312	
QOUT	LCNTRL	LOGICAL	SIMPLE	97	122									
QPHY	LCNTRL	LOGICAL	SIMPLE	98	123									
QPOLES		REAL	UNKNOWN	297	298	299	300	301	302					
QRSH	LCNTRL	LOGICAL	SIMPLE	102	127									
QRSW	LCNTRL	LOGICAL	SIMPLE	101	126									
QS	QANDQT	REAL	ARRAY	241	260	261	262	263	264	265	266	267	268	269
				270	271	272	273	274	275	276	277			
QSHF	LCNTRL	LOGICAL	SIMPLE	99	124									
QU	QANDQT	REAL	ARRAY	278	288	289	290	291	292	293	294	295	296	
RADE	RCNTRL	REAL	SIMPLE	170										
RADLW	QANDQT	REAL	ARRAY	287	296									
RADLWG	QANDQT	REAL	ARRAY	258	276									
RADSW	QANDQT	REAL	ARRAY	286	295									
RADSWG	QANDQT	REAL	ARRAY	257	275									
RC	RCNTRL	REAL	ARRAY	187	188									
RCO	RCNTRL	REAL	SIMPLE	145	187	188								
RCNTRL		REAL	UNKNOWN	145	146	147	148	149	150	151	152	153	154	155
				146	147	148	149	150	151	152	153	154	155	156
				156	157	158	159	160	161	162	163	164	165	166
				167	168	169	170	171	172	173	174	175	176	177
				178	179	180	181	182	183	184	185	186		
RDPARM		REAL	UNKNOWN	206	207	208	209	210	211	212	213	214	215	216
				217	218	219	220	221	222	223	224	225	226	227
				228	229	230	231	232	233	234	235	236	237	238
				239	240									
RGAS	RCNTRL	REAL	SIMPLE	171										
RLAT	RDPARM	REAL	ARRAY	229										
RLATD	RDPARM	REAL	ARRAY	230										
ROCP	RCNTRL	REAL	SIMPLE	172										
ROCPDT	RDPARM	REAL	SIMPLE	231										
ROCPF1	RDPARM	REAL	SIMPLE	232										
RSDIST	RCNTRL	REAL	SIMPLE	173										
SD	QMSAVE	REAL	ARRAY	311	450/S	451	452	455	459	465	515/S	516	522	525
				529	535									
SD1		REAL	SIMPLE	442/S	450	451/S	513/S	515	516/S					
SDAY	RCNTRL	REAL	SIMPLE	174										
SEASON	RCNTRL	REAL	SIMPLE	175										
SGNP	RDPARM	REAL	ARRAY	233	495	496	501	502	506	507	508	509	510	
SH	QANDQT	REAL	ARRAY	282	291	358	358	359	359	360	364	365	366/S	366
				367/S	367	368/S	368	397	397	398	398	399	403	404
				405/S	405	406/S	406	407/S	407	421	421	422	425	426
				426	453	463	464	464	466	467	468/S	468	469/S	469
				498	504									
SHLE		REAL	SIMPLE	463/S	464	464/S	464	465	533/S	534	534/S	534	535	
SHM	QMSAVE	REAL	ARRAY	307										
SHP	QPOLES	REAL	ARRAY	301	509/S	509	533	533	534	534	536	537	538/S	538
				539/S	539									
SHS	QANDQT	REAL	ARRAY	248	266									
SIG	RDPARM	REAL	ARRAY	240	443	458	519	528						
SIGE	RCNTRL	REAL	ARRAY	176										
SIND	RCNTRL	REAL	SIMPLE	177										
SINL	RDPARM	REAL	ARRAY	234										
SINLON	RDPARM	REAL	ARRAY	235	495	496	501	502						
SMTH	QANDQT	REAL	ARRAY	243	261									
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125									
SOLS	RCNTRL	REAL	SIMPLE	178										
START	RDPARM	LOGICAL	SIMPLE	202	205									
T	QANDQT	REAL	ARRAY	281	290	353	353	354	354	355/S	355	356/S	356	357
				357	392	392	393	393	394/S	394	395/S	395	396/S	396
				419	419	420/S	420	459	459	460/S	460	461/S	461	497

TERMT	QMSAVE	REAL	ARRAY	503											
TERMW	QMSAVE	REAL	ARRAY	312											
THSTD	RDPARM	REAL	SIMPLE	312											
THSTD2	RDPARM	REAL	SIMPLE	236											
				237											
TM	QMSAVE	REAL	ARRAY	306											
TMAX	QANDQT	REAL	ARRAY	251	269										
TMIN	QANDQT	REAL	ARRAY	250	268										
TP	QPOLES	REAL	ARRAY	300	508/S	508	529	529	530/S	530	531/S	531			
TS	QANDQT	REAL	ARRAY	247	265										
TSTD	RCNTRL	REAL	SIMPLE	179											
U	QANDQT	REAL	ARRAY	279	288	329	330	331	332	338	343	343	344	344	
				345/S	345	346/S	346	347/S	347	382	382	383	383	384	
				384	385/S	385	386/S	386	415	415	416/S	416	452	452	
				453/S	453	454/S	454	495	496	501	502				
UM	QMSAVE	REAL	ARRAY	304											
UP	QPOLES	REAL	ARRAY	298	506/S	506	522	522	523/S	523	524/S	524			
V	QANDQT	REAL	ARRAY	280	289	348	348	349	349	350/S	350	351/S	351	352	
				352	374	375	377	387	387	388	388	389	389	390	
				390	391/S	391	417	417	418/S	418	455	455	456/S	456	
				457/S	457	493	495	496	499	501	502				
VER	CCNTRL	CHAR*8	SIMPLE	10	23										
VM	QMSAVE	REAL	ARRAY	305											
VP	QPOLES	REAL	ARRAY	299	507/S	507	525	525	526/S	526	527/S	527			
WSAVE	RDPARM	REAL	ARRAY	238											
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24										

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT	FN	DEF	A=ARGLIST					
AMAX1	REAL	INTRINSIC	364	365	403	404	423	425	466	536		
AMIN1	REAL	INTRINSIC	361	362	400	401	467	537				
EXPBYK	REAL	FUNCTION	443	458	519	528						

ORIGINAL PAGE IS
OF POOR QUALITY

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00001 SUBROUTINE COMP2 (J)
C .....
C PURPOSE
C   INTEGRATE THE DIFFERENTIAL FIELDS IN THE CORIOLIS EQUATION,
C   THE THERMODYNAMICS EQUATION, AND THE PRESSURE GRADIENT
C   EQUATION TO PREDICT THE BASE FIELDS ONE TIME STEP FORWARD.
C   FOR BAND J (OR IF J=JM, FOR BANDS J AND J+1).
C   CALLED BY COMPO ONLY
C .....
C USAGE
C .....
C ARGUMENTS   DESCRIPTION
C   J         LATITUDE BAND NUMBER
C .....
C SUBPROGRAMS NEEDED
C   NAME      DESCRIPTION
C   NONE
C .....
C RECORD OF MODIFICATIONS
C   BASED ON OLD VERSION 8.
C .....
C   ?DATE?   ?PROGRAMMER?  ?DESCRIPTION OF MODIFICATIONS?
C   04/28/83  RAMESH        THIS PART AND COMMENTS
C .....
C REMARKS:
C   ( 1 ) ?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.?
C .....
C M / A - C O M S I G M A D A T A I N C .   N A S A - G S F C
C .....
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00002 COMMON /CCNTRL/ CC0
00003 COMMON /CCNTRL/ ADATE
00004 COMMON /CCNTRL/ ATIME
00005 COMMON /CCNTRL/ JIC
00006 COMMON /CCNTRL/ JOB
00007 COMMON /CCNTRL/ CCSP06
00008 COMMON /CCNTRL/ CCSP07
00009 COMMON /CCNTRL/ CCSP08
00010 COMMON /CCNTRL/ VER
00011 COMMON /CCNTRL/ XLABEL (10)
00012 COMMON /CCNTRL/ CQS (30)
00013 COMMON /CCNTRL/ CQU (10)
C .....
00014 EQUIVALENCE (CC0,CC(1))
00015 CHARACTER*8 CC0, CC(200)
00016 CHARACTER*8 ADATE
00017 CHARACTER*8 ATIME
00018 CHARACTER*8 JIC
00019 CHARACTER*8 JOB
00020 CHARACTER*8 CCSP06
00021 CHARACTER*8 CCSP07
00022 CHARACTER*8 CCSP08
00023 CHARACTER*8 VER
00024 CHARACTER*8 XLABEL
C .....
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00025 COMMON /ICNTRL/ IC0
00026 COMMON /ICNTRL/ IM
00027 COMMON /ICNTRL/ IMD2
00028 COMMON /ICNTRL/ IMD2P1
00029 COMMON /ICNTRL/ NDRSW
00030 COMMON /ICNTRL/ JM
00031 COMMON /ICNTRL/ JMD2
00032 COMMON /ICNTRL/ JMT2
00033 COMMON /ICNTRL/ JNP
00034 COMMON /ICNTRL/ JO4
00035 COMMON /ICNTRL/ JOB

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SCOMP2 2
SCOMP2 3
SCOMP2 4
SCOMP2 5
SCOMP2 6
SCOMP2 7
SCOMP2 8
SCOMP2 9
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SCOMP2 12
SCOMP2 13
SCOMP2 14
SCOMP2 15
SCOMP2 16
SCOMP2 17
SCOMP2 18
SCOMP2 19
SCOMP2 20
SCOMP2 21
SCOMP2 22
SCOMP2 23
SCOMP2 24
SCOMP2 25
SCOMP2 26
SCOMP2 27
SCOMP2 28
SCOMP2 29
SCOMP2 30
SCOMP2 31
SCNTRL 2
SCNTRL 3
SCNTRL 4
SCNTRL 5
SCNTRL 6
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00036	COMMON /ICNTRL/ JSP	SCNTRL 43
00037	COMMON /ICNTRL/ KLIALB	SCNTRL 44
00038	COMMON /ICNTRL/ KLIGW	SCNTRL 45
00039	COMMON /ICNTRL/ KLISST	SCNTRL 46
00040	COMMON /ICNTRL/ KS	SCNTRL 47
00041	COMMON /ICNTRL/ KU	SCNTRL 48
00042	COMMON /ICNTRL/ LOGER	SCNTRL 49
00043	COMMON /ICNTRL/ MATIN	SCNTRL 50
00044	COMMON /ICNTRL/ MATSNX	SCNTRL 51
00045	COMMON /ICNTRL/ MATSUN	SCNTRL 52
00046	COMMON /ICNTRL/ MLF (12)	SCNTRL 53
00047	COMMON /ICNTRL/ MROD	SCNTRL 54
00048	COMMON /ICNTRL/ NKRSH	SCNTRL 55
00049	COMMON /ICNTRL/ MSM	SCNTRL 56
00050	COMMON /ICNTRL/ NB	SCNTRL 57
00051	COMMON /ICNTRL/ ND	SCNTRL 58
00052	COMMON /ICNTRL/ NDALT	SCNTRL 59
00053	COMMON /ICNTRL/ NDAY	SCNTRL 60
00054	COMMON /ICNTRL/ NDOUT	SCNTRL 61
00055	COMMON /ICNTRL/ NDPHY	SCNTRL 62
00056	COMMON /ICNTRL/ NDSHF	SCNTRL 63
00057	COMMON /ICNTRL/ NDT	SCNTRL 64
00058	COMMON /ICNTRL/ NHMS	SCNTRL 65
00059	COMMON /ICNTRL/ NHMSE	SCNTRL 66
00060	COMMON /ICNTRL/ NHMSO	SCNTRL 67
00061	COMMON /ICNTRL/ NLAY	SCNTRL 68
00062	COMMON /ICNTRL/ NLAYM1	SCNTRL 69
00063	COMMON /ICNTRL/ NLAYP1	SCNTRL 70
00064	COMMON /ICNTRL/ NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
C		SCNTRL 84
00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 85
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 86
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 87
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 88
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 89
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 91
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 92
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 93
00086	EQUIVALENCE (IICLOUD ,IQS(10))	SCNTRL 94
C		SCNTRL 95
00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 96
00088	EQUIVALENCE (IDTABAT ,IQU(2))	SCNTRL 97
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 98
C		SCNTRL 99
00090	EQUIVALENCE (IC0,IC(1))	SCNTRL 100
00091	INTEGER IC0, IC(200)	SCNTRL 101
C		SCNTRL 102
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL 103
C	-----	SCNTRL 104
00092	COMMON /LCNTRL/ LCO	SCNTRL 105
00093	COMMON /LCNTRL/ QALT	SCNTRL 106
00094	COMMON /LCNTRL/ QBEG	SCNTRL 107
00095	COMMON /LCNTRL/ QDAY	SCNTRL 108
00096	COMMON /LCNTRL/ QEND	SCNTRL 109
00097	COMMON /LCNTRL/ QOUT	SCNTRL 110
00098	COMMON /LCNTRL/ QPHY	SCNTRL 111
00099	COMMON /LCNTRL/ QSHF	SCNTRL 112
00100	COMMON /LCNTRL/ SN2FLG	SCNTRL 113

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00101 COMMON /LCNTRL/ QRSW
00102 COMMON /LCNTRL/ QRSW
00103 COMMON /LCNTRL/ LQS(30)
00104 COMMON /LCNTRL/ LQU(10)

C
00105 EQUIVALENCE (LTMIN ,LQS( 1))
00106 EQUIVALENCE (LTMAX ,LQS( 2))
00107 EQUIVALENCE (LPREACC ,LQS( 3))
00108 EQUIVALENCE (LPRECON ,LQS( 4))
00109 EQUIVALENCE (LHFLUX ,LQS( 5))
00110 EQUIVALENCE (LEFLUX ,LQS( 6))
00111 EQUIVALENCE (LFUSION ,LQS( 7))
00112 EQUIVALENCE (LRADSWG ,LQS( 8))
00113 EQUIVALENCE (LRADLWG ,LQS( 9))
00114 EQUIVALENCE (LICLOUD ,LQS(10))

C
00115 EQUIVALENCE (LOMEGA ,LQU( 1))
00116 EQUIVALENCE (LDIABAT ,LQU( 2))
00117 EQUIVALENCE (LRADSW ,LQU( 3))

C
00118 LOGICAL QALT
00119 LOGICAL QBEG
00120 LOGICAL QDAY
00121 LOGICAL QEND
00122 LOGICAL QOUT
00123 LOGICAL QPHY
00124 LOGICAL QSHF
00125 LOGICAL SN2FLG
00126 LOGICAL QRSW
00127 LOGICAL QRSW

C
00128 LOGICAL LQS
00129 LOGICAL LQU
00130 LOGICAL LTMIN
00131 LOGICAL LTMAX
00132 LOGICAL LPREACC
00133 LOGICAL LPRECON
00134 LOGICAL LHFLUX
00135 LOGICAL LEFLUX
00136 LOGICAL LFUSION
00137 LOGICAL LRADSWG
00138 LOGICAL LRADLWG
00139 LOGICAL LICLOUD

C
00140 LOGICAL LOMEGA
00141 LOGICAL LDIABAT
00142 LOGICAL LRADSW

C
00143 EQUIVALENCE (LC0,LC(1))
00144 LOGICAL LC0, LC(200)

C
C REAL MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00145 COMMON /RCNTRL/ RCO
00146 COMMON /RCNTRL/ APHEL
00147 COMMON /RCNTRL/ BETA
00148 COMMON /RCNTRL/ COSD
00149 COMMON /RCNTRL/ CP
00150 COMMON /RCNTRL/ DAYSPY
00151 COMMON /RCNTRL/ DEC
00152 COMMON /RCNTRL/ DECMAX
00153 COMMON /RCNTRL/ DIST
00154 COMMON /RCNTRL/ DLAT
00155 COMMON /RCNTRL/ DLON
00156 COMMON /RCNTRL/ DT
00157 COMMON /RCNTRL/ ECCN
00158 COMMON /RCNTRL/ GNU1
00159 COMMON /RCNTRL/ GNU2
00160 COMMON /RCNTRL/ GRAV
00161 COMMON /RCNTRL/ OMEGA2
00162 COMMON /RCNTRL/ PI
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00163      COMMON /RCNTRL/ PI180
00164      COMMON /RCNTRL/ PI2
00165      COMMON /RCNTRL/ PSTD
00166      COMMON /RCNTRL/ PIMEAN
00167      COMMON /RCNTRL/ PSMAX
00168      COMMON /RCNTRL/ PSMIN
00169      COMMON /RCNTRL/ PTOP
00170      COMMON /RCNTRL/ RADE
00171      COMMON /RCNTRL/ RGAS
00172      COMMON /RCNTRL/ ROCP
00173      COMMON /RCNTRL/ RSDIST
00174      COMMON /RCNTRL/ SDAY
00175      COMMON /RCNTRL/ SEASON
00176      COMMON /RCNTRL/ SIGE      (25)
00177      COMMON /RCNTRL/ SIND
00178      COMMON /RCNTRL/ SOLS
00179      COMMON /RCNTRL/ TSTD
00180      COMMON /RCNTRL/ PLEVS      (25)
00181      COMMON /RCNTRL/ HEATW
00182      COMMON /RCNTRL/ HEATI
00183      COMMON /RCNTRL/ EPS
00184      COMMON /RCNTRL/ EPSFAC
00185      COMMON /RCNTRL/ CALTOJ
00186      COMMON /RCNTRL/ PZERO

00187      C      EQUIVALENCE      (RC0,RC(1))
00188      REAL      RC0, RC(200)

C
C      INTEGER MODEL CONSTANTS
C      =====
00189      COMMON /IDPARM/ IJUMP      (46)
00190      COMMON /IDPARM/ IDSP02
00191      COMMON /IDPARM/ INDEX      (72)
00192      COMMON /IDPARM/ IROD
00193      COMMON /IDPARM/ JC      (46)
00194      COMMON /IDPARM/ JE      (2)
00195      COMMON /IDPARM/ JP      (2,2)
00196      COMMON /IDPARM/ KSTEP
00197      COMMON /IDPARM/ MJ      (46)
00198      COMMON /IDPARM/ NHMS1
00199      COMMON /IDPARM/ NYMD1

C
C      LOGICAL MODEL CONSTANTS
C      =====
00200      COMMON /LDPARM/ FILTER      (46)
00201      COMMON /LDPARM/ ITAPE
00202      COMMON /LDPARM/ START

C
00203      LOGICAL      FILTER
00204      LOGICAL      ITAPE
00205      LOGICAL      START

C
C      REAL MODEL CONSTANTS
C      =====
00206      COMMON /RDPARM/ ADLDP
00207      COMMON /RDPARM/ CON1
00208      COMMON /RDPARM/ CON1DT
00209      COMMON /RDPARM/ CON2
00210      COMMON /RDPARM/ CON2DT
00211      COMMON /RDPARM/ CON3
00212      COMMON /RDPARM/ CON3DT
00213      COMMON /RDPARM/ CON4
00214      COMMON /RDPARM/ CON4DT
00215      COMMON /RDPARM/ CON5
00216      COMMON /RDPARM/ COSL      (46)
00217      COMMON /RDPARM/ COSLON      (72)
00218      COMMON /RDPARM/ CPD2
00219      COMMON /RDPARM/ DXP      (46)
00220      COMMON /RDPARM/ DXYP      (46)
00221      COMMON /RDPARM/ DYP      (46)
00222      COMMON /RDPARM/ FCORLS      (46)

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00223 COMMON /RDPARM/ F1DT
00224 COMMON /RDPARM/ F2DT
00225 COMMON /RDPARM/ H1DT
00226 COMMON /RDPARM/ H2DT
00227 COMMON /RDPARM/ PKSTD
00228 COMMON /RDPARM/ PKTOP
00229 COMMON /RDPARM/ RLAT (46)
00230 COMMON /RDPARM/ RLATD (46)
00231 COMMON /RDPARM/ ROCPTD
00232 COMMON /RDPARM/ ROCPPI
00233 COMMON /RDPARM/ SGNP (2)
00234 COMMON /RDPARM/ SINL (46)
00235 COMMON /RDPARM/ SINLON (72)
00236 COMMON /RDPARM/ THSTD
00237 COMMON /RDPARM/ THSTD2
00238 COMMON /RDPARM/ WSAVE (159)
00239 COMMON /RDPARM/ DSIG (9)
00240 COMMON /RDPARM/ SIG (9)

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GLOBAL MODEL SURFACE FIELDS
COMMON /QANDQT/ QS(72,19,46)

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DIMENSION PHIS(1368,1)
DIMENSION SMTH(1368,23)
DIMENSION ALBEDO(1368,1)
DIMENSION GT(1368,1)
DIMENSION GW(1368,1)
DIMENSION TS(1368,1)
DIMENSION SHS(1368,1)
DIMENSION P(72,19,1)
DIMENSION TMIN(1368,1)
DIMENSION TMAX(1368,1)
DIMENSION PREACC(1368,1)
DIMENSION PRECON(1368,1)
DIMENSION HFLUX(1368,1)
DIMENSION EFLUX(1368,1)
DIMENSION FUSION(1368,1)
DIMENSION RADSWG(1368,1)
DIMENSION RADLWG(1368,1)
DIMENSION ICLOUD(1368,1)

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EQUIVALENCE (QS(1,1,1),PHIS(1,1))
EQUIVALENCE (QS(1,2,1),SMTH(1,1))
EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))
EQUIVALENCE (QS(1,4,1),GT(1,1))
EQUIVALENCE (QS(1,5,1),GW(1,1))
EQUIVALENCE (QS(1,6,1),TS(1,1))
EQUIVALENCE (QS(1,7,1),SHS(1,1))
EQUIVALENCE (QS(1,8,1),P(1,1,1))
EQUIVALENCE (QS(1,10,1),TMIN(1,1))
EQUIVALENCE (QS(1,11,1),TMAX(1,1))
EQUIVALENCE (QS(1,12,1),PREACC(1,1))
EQUIVALENCE (QS(1,13,1),PRECON(1,1))
EQUIVALENCE (QS(1,14,1),HFLUX(1,1))
EQUIVALENCE (QS(1,15,1),EFLUX(1,1))
EQUIVALENCE (QS(1,16,1),FUSION(1,1))
EQUIVALENCE (QS(1,17,1),RADSWG(1,1))
EQUIVALENCE (QS(1,18,1),RADLWG(1,1))
EQUIVALENCE (QS(1,19,1),ICLOUD(1,1))

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GLOBAL MODEL UPPER-AIR FIELDS
COMMON /QANDQT/ QU(72,9,14,46)

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DIMENSION U(72,9,14,1)
DIMENSION V(72,9,14,1)
DIMENSION T(72,9,14,1)
DIMENSION SH(72,9,14,1)
DIMENSION PHI(72,9,14,1)
DIMENSION OMEGA(72,126,1)
DIMENSION DIABAT(72,126,1)

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LND		INTEGER	SIMPLE	326/S	342	342	343	343	344	344	345	345	346	347
LOGSR	ICNTRL	INTEGER	SIMPLE	348	349	349	365	366	373	373	374	375		
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	42										
LPREACC	LCNTRL	LOGICAL	UNKNOWN	115	140									
LPRECON	LCNTRL	LOGICAL	UNKNOWN	107	132									
LQS	LCNTRL	LOGICAL	ARRAY	108	133									
				103	105	106	107	108	109	110	111	112	113	114
				128										
LQU	LCNTRL	LOGICAL	ARRAY	104	115	116	117	129						
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138									
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	142									
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	112	137									
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131									
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130									
M		INTEGER	SIMPLE	360/S	361/S	362	364	365	365	365	366	366	366	373
				373	373	373	373	374	374	375	375	382	382	383
				383	383	384	384	384	384					
MATIN	ICNTRL	INTEGER	SIMPLE	43										
MATSNX	ICNTRL	INTEGER	SIMPLE	44										
MATSUN	ICNTRL	INTEGER	SIMPLE	45										
MJ	IDPARM	INTEGER	ARRAY	197										
MLF	ICNTRL	INTEGER	ARRAY	46										
MROD	ICNTRL	INTEGER	SIMPLE	47										
MSM	ICNTRL	INTEGER	SIMPLE	49										
NB	ICNTRL	INTEGER	SIMPLE	50	315									
ND	ICNTRL	INTEGER	SIMPLE	51	314	338	338	339	339	340	340	341	341	346
				351	352	364	373	373	374	375	383	384		
NDALT	ICNTRL	INTEGER	SIMPLE	52										
NDAY	ICNTRL	INTEGER	SIMPLE	53										
NDHOG	ICNTRL	INTEGER	SIMPLE	74										
NDOUT	ICNTRL	INTEGER	SIMPLE	54										
NDPHY	ICNTRL	INTEGER	SIMPLE	55										
NDRSW	ICNTRL	INTEGER	SIMPLE	29										
NDSHF	ICNTRL	INTEGER	SIMPLE	56										
NDT	ICNTRL	INTEGER	SIMPLE	57										
NHMS	ICNTRL	INTEGER	SIMPLE	58										
NHMSO	ICNTRL	INTEGER	SIMPLE	60										
NHMS1	IDPARM	INTEGER	SIMPLE	198										
NHMSE	ICNTRL	INTEGER	SIMPLE	59										
NKRSH	ICNTRL	INTEGER	SIMPLE	48										
NLAY	ICNTRL	INTEGER	SIMPLE	61	314	315	325							
NLAYM1	ICNTRL	INTEGER	SIMPLE	62										
NLAYNB		INTEGER	SIMPLE	315/S	327									
NLAYND		INTEGER	SIMPLE	314/S	326									
NLAYP1	ICNTRL	INTEGER	SIMPLE	63										
NMLEV	ICNTRL	INTEGER	SIMPLE	73										
NSDAY	ICNTRL	INTEGER	SIMPLE	64										
NSEQ	ICNTRL	INTEGER	SIMPLE	65										
NSTEP	ICNTRL	INTEGER	SIMPLE	67										
NYMD	ICNTRL	INTEGER	SIMPLE	69										
NYMDO	ICNTRL	INTEGER	SIMPLE	71										
NYMD1	IDPARM	INTEGER	SIMPLE	199										
NYMDE	ICNTRL	INTEGER	SIMPLE	70										
NZINIT	ICNTRL	INTEGER	SIMPLE	72										
OMEGA	QANDQT	REAL	ARRAY	284	293									
OMEGA2	RCNTRL	REAL	SIMPLE	161										
P	QANDQT	REAL	ARRAY	249	267	338	338	339	339	340	340	341	341	346
				351	352	373	373	374	375					
PDOOT		REAL	SIMPLE	349/S	350	381/S	382							
PHI	QANDQT	REAL	ARRAY	283	292	342	342	343	343	344	344	345	345	374
				375										
PHI1		REAL	SIMPLE	374/S	376	377								
PHI1CS		REAL	SIMPLE	368/S	376/S	376	383							
PHI1SS		REAL	SIMPLE	369/S	377/S	377	384							
PHI2		REAL	SIMPLE	375/S	378	379								
PHI2CS		REAL	SIMPLE	370/S	378/S	378	383							
PHI2SS		REAL	SIMPLE	371/S	379/S	379	384							
PHIM	QMSAVE	REAL	ARRAY	308										
PHIP	QPOLES	REAL	ARRAY	302										

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PHIS	QANDQT	REAL	ARRAY	242	260														
PHIX1		REAL	SIMPLE	342/S	351														
PHIX2		REAL	SIMPLE	343/S	351														
PHIY1		REAL	SIMPLE	344/S	352														
PHIY2		REAL	SIMPLE	345/S	352														
PI	RCNTRL	REAL	SIMPLE	162															
PI180	RCNTRL	REAL	SIMPLE	163															
PI2	RCNTRL	REAL	SIMPLE	164															
PMEAN	RCNTRL	REAL	SIMPLE	166															
PIT	QMSAVE	REAL	ARRAY	310	349	381													
PKSTD	RDPARM	REAL	SIMPLE	227															
PKTOP	RDPARM	REAL	SIMPLE	228															
PLEVS	RCNTRL	REAL	ARRAY	180															
PM	QMSAVE	REAL	ARRAY	303															
PP	QPOLES	REAL	ARRAY	297	364	383	384												
PREACC	QANDQT	REAL	ARRAY	252	270														
PRECON	QANDQT	REAL	ARRAY	253	271														
PSMAX	RCNTRL	REAL	SIMPLE	167															
PSMIN	RCNTRL	REAL	SIMPLE	168															
PSTD	RCNTRL	REAL	SIMPLE	165															
PTOP	RCNTRL	REAL	SIMPLE	169															
PV	QMSAVE	REAL	ARRAY	309															
PVDS		REAL	SIMPLE	367/S	373/S	373	381												
PX1		REAL	SIMPLE	338/S	349	351													
PX2		REAL	SIMPLE	339/S	349	351													
PY1		REAL	SIMPLE	340/S	349	352													
PY2		REAL	SIMPLE	341/S	349	352													
PZERO	RCNTRL	REAL	SIMPLE	186															
QALT	LCNTRL	LOGICAL	SIMPLE	93	118														
QANDQT		REAL	UNKNOWN	241	278														
QBEG	LCNTRL	LOGICAL	SIMPLE	94	119														
QDAY	LCNTRL	LOGICAL	SIMPLE	95	120														
QEND	LCNTRL	LOGICAL	SIMPLE	96	121														
QMSAVE		REAL	UNKNOWN	303	304	305	306	307	308	309	310	311	312						
QOUT	LCNTRL	LOGICAL	SIMPLE	97	122														
QPHY	LCNTRL	LOGICAL	SIMPLE	98	123														
QPOLES		REAL	UNKNOWN	297	298	299	300	301	302										
QRSH	LCNTRL	LOGICAL	SIMPLE	102	127														
QRSW	LCNTRL	LOGICAL	SIMPLE	101	126														
QS	QANDQT	REAL	ARRAY	241	260	261	262	263	264	265	266	267	268	269					
				270	271	272	273	274	275	276	277								
QSHF	LCNTRL	LOGICAL	SIMPLE	99	124														
QU	QANDQT	REAL	ARRAY	278	288	289	290	291	292	293	294	295	296						
RADE	RCNTRL	REAL	SIMPLE	170															
RADLW	QANDQT	REAL	ARRAY	287	296														
RADLWG	QANDQT	REAL	ARRAY	258	276														
RADSW	QANDQT	REAL	ARRAY	286	295														
RADSWG	QANDQT	REAL	ARRAY	257	275														
RC	RCNTRL	REAL	ARRAY	187	188														
RCG	RCNTRL	REAL	SIMPLE	145	187	188													
RCNTRL		REAL	UNKNOWN	145	146	147	148	149	150	151	152	153	154	155					
				156	157	158	159	160	161	162	163	164	165	166					
				167	168	169	170	171	172	173	174	175	176	177					
				178	179	180	181	182	183	184	185	186							
RDPARM		REAL	UNKNOWN	206	207	208	209	210	211	212	213	214	215	216					
				217	218	219	220	221	222	223	224	225	226	227					
				228	229	230	231	232	233	234	235	236	237	238					
				239	240														
RGAS	RCNTRL	REAL	SIMPLE	171															
RLAT	RDPARM	REAL	ARRAY	229															
RLATD	RDPARM	REAL	ARRAY	230															
ROCP	RCNTRL	REAL	SIMPLE	172															
ROCPDT	RDPARM	REAL	SIMPLE	231															
ROCPP1	RDPARM	REAL	SIMPLE	232															
RSDIST	RCNTRL	REAL	SIMPLE	173															
SD	QMSAVE	REAL	ARRAY	311															
SDAY	RCNTRL	REAL	SIMPLE	174															
SEASON	RCNTRL	REAL	SIMPLE	175															
SGNP	RDPARM	REAL	ARRAY	233	373	384													
SH	QANDQT	REAL	ARRAY	282	291														

SHM	QMSAVE	REAL	ARRAY	307																
SHP	QPOLES	REAL	ARRAY	301																
SHS	QANDQT	REAL	ARRAY	248	266															
SIG	RDPARM	REAL	ARRAY	240																
SIGE	RCNTRL	REAL	ARRAY	176																
SIND	RCNTRL	REAL	SIMPLE	177																
SINL	RDPARM	REAL	ARRAY	234	323															
SINLON	RDPARM	REAL	ARRAY	235	373	377		379												
SMTH	QANDQT	REAL	ARRAY	243	261															
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125															
SOLS	RCNTRL	REAL	SIMPLE	178																
START	LDPARM	LOGICAL	SIMPLE	202	205															
T	QANDQT	REAL	ARRAY	281	290	350/S		350												
TERMT	QMSAVE	REAL	ARRAY	312	350	382														
TERMW	QMSAVE	REAL	ARRAY	312	351	351	352	352	374	375										
THSTD	RDPARM	REAL	SIMPLE	236																
THSTD2	RDPARM	REAL	SIMPLE	237																
TM	QMSAVE	REAL	ARRAY	306																
TMAX	QANDQT	REAL	ARRAY	251	269															
TMIN	QANDQT	REAL	ARRAY	250	268															
TP	QPOLES	REAL	ARRAY	300	382/S	382														
TS	QANDQT	REAL	ARRAY	247	265															
TSTD	RCNTRL	REAL	SIMPLE	179																
U	QANDQT	REAL	ARRAY	279	288	346	347/S	347	348	349	351/S	351								
UM	QMSAVE	REAL	ARRAY	304																
UP	QPOLES	REAL	ARRAY	298	365/S	365	366	373	383/S	383										
V	QANDQT	REAL	ARRAY	280	289	347	348/S	348	349	352/S	352									
VER	CCNTRL	CHAR*8	SIMPLE	10	23															
VM	QMSAVE	REAL	ARRAY	305																
VP	QPOLES	REAL	ARRAY	299	365	366/S	366	373	384/S	384										
WSAVE	RDPARM	REAL	ARRAY	238																
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24															

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00001      SUBROUTINE COMP3 (J)
C
C
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C -----
00002      COMMON /CCNTRL/ CC0
00003      COMMON /CCNTRL/ ADATE
00004      COMMON /CCNTRL/ ATIME
00005      COMMON /CCNTRL/ JIC
00006      COMMON /CCNTRL/ JOB
00007      COMMON /CCNTRL/ CCSP06
00008      COMMON /CCNTRL/ CCSP07
00009      COMMON /CCNTRL/ CCSP08
00010      COMMON /CCNTRL/ VER
00011      COMMON /CCNTRL/ XLABEL (10)
00012      COMMON /CCNTRL/ CQS (30)
00013      COMMON /CCNTRL/ CQU (10)
C
00014      EQUIVALENCE      (CC0,CC(1))
00015      CHARACTER*8      CC0, CC(200)
00016      CHARACTER*8      ADATE
00017      CHARACTER*8      ATIME
00018      CHARACTER*8      JIC
00019      CHARACTER*8      JOB
00020      CHARACTER*8      CCSP06
00021      CHARACTER*8      CCSP07
00022      CHARACTER*8      CCSP08
00023      CHARACTER*8      VER
00024      CHARACTER*8      XLABEL
C
C
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C -----
00025      COMMON /ICNTRL/ IC0
00026      COMMON /ICNTRL/ IM
00027      COMMON /ICNTRL/ IMD2
00028      COMMON /ICNTRL/ IMD2P1
00029      COMMON /ICNTRL/ NDRSW
00030      COMMON /ICNTRL/ JM
00031      COMMON /ICNTRL/ JMD2
00032      COMMON /ICNTRL/ JMT2
00033      COMMON /ICNTRL/ JNP
00034      COMMON /ICNTRL/ JO4
00035      COMMON /ICNTRL/ JO8
00036      COMMON /ICNTRL/ JSP
00037      COMMON /ICNTRL/ KLIALB
00038      COMMON /ICNTRL/ KLIGW
00039      COMMON /ICNTRL/ KLISST
00040      COMMON /ICNTRL/ KS
00041      COMMON /ICNTRL/ KU
00042      COMMON /ICNTRL/ LOGBR
00043      COMMON /ICNTRL/ MATIN
00044      COMMON /ICNTRL/ MATSNX
00045      COMMON /ICNTRL/ MATSUN
00046      COMMON /ICNTRL/ MLF      (12)
00047      COMMON /ICNTRL/ MROD
00048      COMMON /ICNTRL/ NKRSR
00049      COMMON /ICNTRL/ MSM
00050      COMMON /ICNTRL/ NB
00051      COMMON /ICNTRL/ ND
00052      COMMON /ICNTRL/ NDALT
00053      COMMON /ICNTRL/ NDAY
00054      COMMON /ICNTRL/ NDOUT
00055      COMMON /ICNTRL/ NDPHY
00056      COMMON /ICNTRL/ NDSHF
00057      COMMON /ICNTRL/ NDT
00058      COMMON /ICNTRL/ NHMS
00059      COMMON /ICNTRL/ NHMSE
00060      COMMON /ICNTRL/ NHMS0
00061      COMMON /ICNTRL/ NLAY
00062      COMMON /ICNTRL/ NLAYM1
00063      COMMON /ICNTRL/ NLAYP1

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SCNTRL     70

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00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
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00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
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00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 85
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 86
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 87
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 88
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 89
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 91
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 92
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 93
00086	EQUIVALENCE (ICLOUD ,IQS(10))	SCNTRL 94
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00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 96
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 97
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 98
C		SCNTRL 99
00090	EQUIVALENCE (ICO,IC(1))	SCNTRL 100
00091	INTEGER ICO, IC(200)	SCNTRL 101
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C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL 103
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00092	COMMON /LCNTRL/ LCO	SCNTRL 105
00093	COMMON /LCNTRL/ QALT	SCNTRL 106
00094	COMMON /LCNTRL/ QBEG	SCNTRL 107
00095	COMMON /LCNTRL/ QDAY	SCNTRL 108
00096	COMMON /LCNTRL/ QEND	SCNTRL 109
00097	COMMON /LCNTRL/ QOUT	SCNTRL 110
00098	COMMON /LCNTRL/ QPHY	SCNTRL 111
00099	COMMON /LCNTRL/ QSHF	SCNTRL 112
00100	COMMON /LCNTRL/ SN2FLG	SCNTRL 113
00101	COMMON /LCNTRL/ QRSW	SCNTRL 114
00102	COMMON /LCNTRL/ QRSH	SCNTRL 115
00103	COMMON /LCNTRL/ LQS(30)	SCNTRL 116
00104	COMMON /LCNTRL/ LQU(10)	SCNTRL 117
C		SCNTRL 118
00105	EQUIVALENCE (LTMIN ,LQS(1))	SCNTRL 119
00106	EQUIVALENCE (LTMAX ,LQS(2))	SCNTRL 120
00107	EQUIVALENCE (LPREACC ,LQS(3))	SCNTRL 121
00108	EQUIVALENCE (LPRECON ,LQS(4))	SCNTRL 122
00109	EQUIVALENCE (LHFLUX ,LQS(5))	SCNTRL 123
00110	EQUIVALENCE (LEFLUX ,LQS(6))	SCNTRL 124
00111	EQUIVALENCE (LFUSION ,LQS(7))	SCNTRL 125
00112	EQUIVALENCE (LRADSWG ,LQS(8))	SCNTRL 126
00113	EQUIVALENCE (LRADLWG ,LQS(9))	SCNTRL 127
00114	EQUIVALENCE (LICLOUD ,LQS(10))	SCNTRL 128
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00115	EQUIVALENCE (LOMEGA ,LQU(1))	SCNTRL 130
00116	EQUIVALENCE (LDIABAT ,LQU(2))	SCNTRL 131
00117	EQUIVALENCE (LRADSW ,LQU(3))	SCNTRL 132
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00118	LOGICAL QALT	SCNTRL 134
00119	LOGICAL QBEG	SCNTRL 135
00120	LOGICAL QDAY	SCNTRL 136
00121	LOGICAL QEND	SCNTRL 137
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00123	LOGICAL QPHY	SCNTRL 139
00124	LOGICAL QSHF	SCNTRL 140
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00127		LOGICAL	QRSH	SCNTRL	143	
00128	C	LOGICAL	LQS	SCNTRL	144	
00129		LOGICAL	LQU	SCNTRL	145	
00130		LOGICAL	LTMIN	SCNTRL	146	
00131		LOGICAL	LTMAX	SCNTRL	147	
00132		LOGICAL	LPREACC	SCNTRL	148	
00133		LOGICAL	LPRECON	SCNTRL	149	
00134		LOGICAL	LHFLUX	SCNTRL	150	
00135		LOGICAL	LEFLUX	SCNTRL	151	
00136		LOGICAL	LFUSION	SCNTRL	152	
00137		LOGICAL	LRADSWG	SCNTRL	153	
00138		LOGICAL	LRADLWG	SCNTRL	154	
00139		LOGICAL	LICLOUD	SCNTRL	155	
00140	C	LOGICAL	LOMEGA	SCNTRL	156	
00141		LOGICAL	LDIABAT	SCNTRL	157	
00142		LOGICAL	LRADSW	SCNTRL	158	
00143	C	EQUIVALENCE	(LC0,LC(1))	SCNTRL	159	
00144		LOGICAL	LC0, LC(200)	SCNTRL	160	
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	C	=====			SCNTRL	162
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00146		COMMON	/RCNTRL/ APHEL	SCNTRL	164	
00147		COMMON	/RCNTRL/ BETA	SCNTRL	165	
00148		COMMON	/RCNTRL/ COSD	SCNTRL	166	
00149		COMMON	/RCNTRL/ CP	SCNTRL	167	
00150		COMMON	/RCNTRL/ DAYSPY	SCNTRL	168	
00151		COMMON	/RCNTRL/ DEC	SCNTRL	169	
00152		COMMON	/RCNTRL/ DECMAX	SCNTRL	170	
00153		COMMON	/RCNTRL/ DIST	SCNTRL	171	
00154		COMMON	/RCNTRL/ DLAT	SCNTRL	172	
00155		COMMON	/RCNTRL/ DLON	SCNTRL	173	
00156		COMMON	/RCNTRL/ DT	SCNTRL	174	
00157		COMMON	/RCNTRL/ ECCN	SCNTRL	175	
00158		COMMON	/RCNTRL/ GNU1	SCNTRL	176	
00159		COMMON	/RCNTRL/ GNU2	SCNTRL	177	
00160		COMMON	/RCNTRL/ GRAV	SCNTRL	178	
00161		COMMON	/RCNTRL/ OMEGA2	SCNTRL	179	
00162		COMMON	/RCNTRL/ PI	SCNTRL	180	
00163		COMMON	/RCNTRL/ PI180	SCNTRL	181	
00164		COMMON	/RCNTRL/ PI2	SCNTRL	182	
00165		COMMON	/RCNTRL/ PSTD	SCNTRL	183	
00166		COMMON	/RCNTRL/ PIMEAN	SCNTRL	184	
00167		COMMON	/RCNTRL/ PSMAX	SCNTRL	185	
00168		COMMON	/RCNTRL/ PSMIN	SCNTRL	186	
00169		COMMON	/RCNTRL/ PTOP	SCNTRL	187	
00170		COMMON	/RCNTRL/ RADE	SCNTRL	188	
00171		COMMON	/RCNTRL/ RGAS	SCNTRL	189	
00172		COMMON	/RCNTRL/ ROCP	SCNTRL	190	
00173		COMMON	/RCNTRL/ RSDIST	SCNTRL	191	
00174		COMMON	/RCNTRL/ SDAY	SCNTRL	192	
00175		COMMON	/RCNTRL/ SEASON	SCNTRL	193	
00176		COMMON	/RCNTRL/ SIGE (25)	SCNTRL	194	
00177		COMMON	/RCNTRL/ SIND	SCNTRL	195	
00178		COMMON	/RCNTRL/ SOLS	SCNTRL	196	
00179		COMMON	/RCNTRL/ TSTD	SCNTRL	197	
00180		COMMON	/RCNTRL/ PLEVS (25)	SCNTRL	198	
00181		COMMON	/RCNTRL/ HEATW	SCNTRL	199	
00182		COMMON	/RCNTRL/ HEATI	SCNTRL	200	
00183		COMMON	/RCNTRL/ EPS	SCNTRL	201	
00184		COMMON	/RCNTRL/ EPSFAC	SCNTRL	202	
00185		COMMON	/RCNTRL/ CALTOJ	SCNTRL	203	
00186		COMMON	/RCNTRL/ PZERO	SCNTRL	204	
00187	C	EQUIVALENCE	(RC0,RC(1))	SCNTRL	205	
00188		REAL	RC0, RC(200)	SCNTRL	206	
	C			SCNTRL	207	
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				SCNTRL	212	

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C INTEGER MODEL CONSTANTS
C =====
00189 COMMON /IDPARM/ IJUMP (46)
00190 COMMON /IDPARM/ IDSP02
00191 COMMON /IDPARM/ INDEX (72)
00192 COMMON /IDPARM/ IROD
00193 COMMON /IDPARM/ JC (46)
00194 COMMON /IDPARM/ JE (2)
00195 COMMON /IDPARM/ JP (2,2)
00196 COMMON /IDPARM/ KSTEP
00197 COMMON /IDPARM/ MJ (46)
00198 COMMON /IDPARM/ NHMS1
00199 COMMON /IDPARM/ NYMD1

C LOGICAL MODEL CONSTANTS
C =====
00200 COMMON /LOPARM/ FILTER (46)
00201 COMMON /LOPARM/ ITAPE
00202 COMMON /LOPARM/ START

C LOGICAL FILTER
00203 LOGICAL FILTER
00204 LOGICAL ITAPE
00205 LOGICAL START

C REAL MODEL CONSTANTS
C =====
00206 COMMON /RDPARM/ ADLDR
00207 COMMON /RDPARM/ CON1
00208 COMMON /RDPARM/ CON1DT
00209 COMMON /RDPARM/ CON2
00210 COMMON /RDPARM/ CON2DT
00211 COMMON /RDPARM/ CON3
00212 COMMON /RDPARM/ CON3DT
00213 COMMON /RDPARM/ CON4
00214 COMMON /RDPARM/ CON4DT
00215 COMMON /RDPARM/ CONS
00216 COMMON /RDPARM/ COSL (46)
00217 COMMON /RDPARM/ COSLON (72)
00218 COMMON /RDPARM/ CPD2
00219 COMMON /RDPARM/ DXP (46)
00220 COMMON /RDPARM/ DXYP (46)
00221 COMMON /RDPARM/ DYP (46)
00222 COMMON /RDPARM/ FCORLS (46)
00223 COMMON /RDPARM/ F1DT
00224 COMMON /RDPARM/ F2DT
00225 COMMON /RDPARM/ H1DT
00226 COMMON /RDPARM/ H2DT
00227 COMMON /RDPARM/ PKSTD
00228 COMMON /RDPARM/ PKTOP
00229 COMMON /RDPARM/ RLAT (46)
00230 COMMON /RDPARM/ RLATD (46)
00231 COMMON /RDPARM/ ROC PDT
00232 COMMON /RDPARM/ ROC PP1
00233 COMMON /RDPARM/ SGNP (2)
00234 COMMON /RDPARM/ SINL (46)
00235 COMMON /RDPARM/ SINLON (72)
00236 COMMON /RDPARM/ THSTD
00237 COMMON /RDPARM/ THSTD2
00238 COMMON /RDPARM/ WSAVE (159)
00239 COMMON /RDPARM/ DSIG (9)
00240 COMMON /RDPARM/ SIG (9)

C * * *
C GLOBAL MODEL SURFACE FIELDS
C COMMON /QANDQT/ QS(72,19,46)

00241
00242 DIMENSION PHIS(1368,1)
00243 DIMENSION SMTH(1368,23)
00244 DIMENSION ALBEDO(1368,1)
00245 DIMENSION GT(1368,1)
00246 DIMENSION GW(1368,1)

SCNTRL 213
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SCNTRL 216
SCNTRL 217
SCNTRL 218
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SQANDQT 8
SQANDQT 9
SQANDQT 10

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00247	DIMENSION	TS(1368,1)	SQANDQT	11
00248	DIMENSION	SHS(1368,1)	SQANDQT	12
00249	DIMENSION	P(72,19,1)	SQANDQT	13
00250	DIMENSION	TMIN(1368,1)	SQANDQT	14
00251	DIMENSION	TMAX(1368,1)	SQANDQT	15
00252	DIMENSION	PREACC(1368,1)	SQANDQT	16
00253	DIMENSION	PRECON(1368,1)	SQANDQT	17
00254	DIMENSION	HFLUX(1368,1)	SQANDQT	18
00255	DIMENSION	EFLUX(1368,1)	SQANDQT	19
00256	DIMENSION	FUSION(1368,1)	SQANDQT	20
00257	DIMENSION	RADSWG(1368,1)	SQANDQT	21
00258	DIMENSION	RADLWG(1368,1)	SQANDQT	22
00259	DIMENSION	ICLOUD(1368,1)	SQANDQT	23
C				SQANDQT 24
00260	EQUIVALENCE	(QS(1,1,1),PHIS(1,1))	SQANDQT	25
00261	EQUIVALENCE	(QS(1,2,1),SMTH(1,1))	SQANDQT	26
00262	EQUIVALENCE	(QS(1,3,1),ALBEDO(1,1))	SQANDQT	27
00263	EQUIVALENCE	(QS(1,4,1),GT(1,1))	SQANDQT	28
00264	EQUIVALENCE	(QS(1,5,1),GW(1,1))	SQANDQT	29
00265	EQUIVALENCE	(QS(1,6,1),TS(1,1))	SQANDQT	30
00266	EQUIVALENCE	(QS(1,7,1),SHS(1,1))	SQANDQT	31
00267	EQUIVALENCE	(QS(1,8,1),P(1,1,1))	SQANDQT	32
00268	EQUIVALENCE	(QS(1,10,1),TMIN(1,1))	SQANDQT	33
00269	EQUIVALENCE	(QS(1,11,1),TMAX(1,1))	SQANDQT	34
00270	EQUIVALENCE	(QS(1,12,1),PREACC(1,1))	SQANDQT	35
00271	EQUIVALENCE	(QS(1,13,1),PRECON(1,1))	SQANDQT	36
00272	EQUIVALENCE	(QS(1,14,1),HFLUX(1,1))	SQANDQT	37
00273	EQUIVALENCE	(QS(1,15,1),EFLUX(1,1))	SQANDQT	38
00274	EQUIVALENCE	(QS(1,16,1),FUSION(1,1))	SQANDQT	39
00275	EQUIVALENCE	(QS(1,17,1),RADSWG(1,1))	SQANDQT	40
00276	EQUIVALENCE	(QS(1,18,1),RADLWG(1,1))	SQANDQT	41
00277	EQUIVALENCE	(QS(1,19,1),ICLOUD(1,1))	SQANDQT	42
C				SQANDQT 43
C GLOBAL MODEL UPPER-AIR FIELDS				SQANDQT 44
00278	COMMON /QANDQT/	QU(72,9,14,46)	SQANDQT	45
C				SQANDQT 46
00279	DIMENSION	U(72,9,14,1)	SQANDQT	47
00280	DIMENSION	V(72,9,14,1)	SQANDQT	48
00281	DIMENSION	T(72,9,14,1)	SQANDQT	49
00282	DIMENSION	SH(72,9,14,1)	SQANDQT	50
00283	DIMENSION	PHI(72,9,14,1)	SQANDQT	51
00284	DIMENSION	OMEGA(72,126,1)	SQANDQT	52
00285	DIMENSION	DIABAT(72,126,1)	SQANDQT	53
00286	DIMENSION	RADSW(72,126,1)	SQANDQT	54
00287	DIMENSION	RADLW(72,126,1)	SQANDQT	55
C				SQANDQT 56
00288	EQUIVALENCE	(QU(1,1,1,1),U(1,1,1,1))	SQANDQT	57
00289	EQUIVALENCE	(QU(1,1,3,1),V(1,1,1,1))	SQANDQT	58
00290	EQUIVALENCE	(QU(1,1,5,1),T(1,1,1,1))	SQANDQT	59
00291	EQUIVALENCE	(QU(1,1,7,1),SH(1,1,1,1))	SQANDQT	60
00292	EQUIVALENCE	(QU(1,1,9,1),PHI(1,1,1,1))	SQANDQT	61
00293	EQUIVALENCE	(QU(1,1,11,1),OMEGA(1,1,1,1))	SQANDQT	62
00294	EQUIVALENCE	(QU(1,1,12,1),DIABAT(1,1,1,1))	SQANDQT	63
00295	EQUIVALENCE	(QU(1,1,13,1),RADSW(1,1,1,1))	SQANDQT	64
00296	EQUIVALENCE	(QU(1,1,14,1),RADLW(1,1,1,1))	SQANDQT	65
C				SQANDQT 66
C PHYSICS PARAMETERS AND CONSTANTS				SCNTRLP 2
00297	COMMON /CNTRLP/	CDFR	SCNTRLP	3
00298	COMMON /CNTRLP/	CDXL	SCNTRLP	4
00299	COMMON /CNTRLP/	CDXO	SCNTRLP	5
00300	COMMON /CNTRLP/	CLH	SCNTRLP	6
00301	COMMON /CNTRLP/	COE (9)	SCNTRLP	7
00302	COMMON /CNTRLP/	COEF	SCNTRLP	8
00303	COMMON /CNTRLP/	COEFS	SCNTRLP	9
00304	COMMON /CNTRLP/	COSROT	SCNTRLP	10
00305	COMMON /CNTRLP/	CPP	SCNTRLP	11
00306	COMMON /CNTRLP/	CTID	SCNTRLP	12
00307	COMMON /CNTRLP/	CUMDAY	SCNTRLP	13
00308	COMMON /CNTRLP/	CUMRAT	SCNTRLP	14
00309	COMMON /CNTRLP/	C10	SCNTRLP	15
				SCNTRLP 16

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00310	COMMON /CNTRLP/ C100	SCNTRLP 17
00311	COMMON /CNTRLP/ C40	SCNTRLP 18
00312	COMMON /CNTRLP/ DELTA	SCNTRLP 19
00313	COMMON /CNTRLP/ DTC3	SCNTRLP 20
00314	COMMON /CNTRLP/ DTOUT	SCNTRLP 21
00315	COMMON /CNTRLP/ ED	SCNTRLP 22
00316	COMMON /CNTRLP/ EDNM	SCNTRLP 23
00317	COMMON /CNTRLP/ FCOEF	SCNTRLP 24
00318	COMMON /CNTRLP/ FMU	SCNTRLP 25
00319	COMMON /CNTRLP/ FWET	SCNTRLP 26
00320	COMMON /CNTRLP/ GAMFAC	SCNTRLP 27
00321	COMMON /CNTRLP/ GT0P0	SCNTRLP 28
00322	COMMON /CNTRLP/ HICE	SCNTRLP 29
00323	COMMON /CNTRLP/ NDTC3	SCNTRLP 30
00324	COMMON /CNTRLP/ NFLW	SCNTRLP 31
00325	COMMON /CNTRLP/ PJM	SCNTRLP 32
00326	COMMON /CNTRLP/ QHOG	SCNTRLP 33
00327	COMMON /CNTRLP/ SHLTOP	SCNTRLP 34
00328	COMMON /CNTRLP/ SINROT	SCNTRLP 35
00329	COMMON /CNTRLP/ SNOWN	SCNTRLP 36
00330	COMMON /CNTRLP/ SNOWS	SCNTRLP 37
00331	COMMON /CNTRLP/ STBO	SCNTRLP 38
00332	COMMON /CNTRLP/ STERP1	SCNTRLP 39
00333	COMMON /CNTRLP/ STERP2	SCNTRLP 40
00334	COMMON /CNTRLP/ TICE	SCNTRLP 41
00335	COMMON /CNTRLP/ TLTOP	SCNTRLP 42
00336	COMMON /CNTRLP/ XDAY	SCNTRLP 43
00337	COMMON /CNTRLP/ ZLNCO	SCNTRLP 44
00338	LOGICAL QHOG	SCNTRLP 45
		SCNTRLP 46

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00339	COMMON /RADCOM/ AS(72,9), RE(72,10)	SRADCOM 2
00340	COMMON /RADCOM/ PL(72,9), PLE(72,10)	SRADCOM 3
00341	COMMON /RADCOM/ PLK(72,9), PLKE(10)	SRADCOM 4
00342	COMMON /RADCOM/ TL(72,9), TLE(72,10)	SRADCOM 5
00343	COMMON /RADCOM/ TG(72,9), TH(72,9)	SRADCOM 6
00344	COMMON /RADCOM/ SHL(72,9), SHLE(72,10)	SRADCOM 7
00345	COMMON /RADCOM/ SHG(72,9), CLOUD(72,12)	SRADCOM 8
00346	COMMON /RADCOM/ SHSAT(72,9), GAM(72,9)	SRADCOM 9
00347	COMMON /RADCOM/ RH(72,9)	SRADCOM 10
00348	COMMON /RADCOM/ SSS(72,9), SSSE(72,10)	SRADCOM 11
00349	COMMON /RADCOM/ HH(72,9), HHE(72,10)	SRADCOM 12
00350	COMMON /RADCOM/ HHS(72,9)	SRADCOM 13
00351	COMMON /RADCOM/ CVT(72,9), CVQ(72,9)	SRADCOM 14
00352	COMMON /RADCOM/ CXDE(9)	SRADCOM 15
00353	COMMON /RADCOM/ SWALE(72,10), SWIL(72,9)	SRADCOM 16
00354	COMMON /RADCOM/ ALI(72,10)	SRADCOM 17
00355	COMMON /RADCOM/ TAUL(72,10), OZALE(72,10)	SRADCOM 18
00356	COMMON /RADCOM/ TOPABS(72)	SRADCOM 19
00357	COMMON /RADCOM/ RN(9), TN(9), SRS(9), STN(9)	SRADCOM 20
00358	COMMON /RADCOM/ TCOND(9), TPENE(9)	SRADCOM 21
00359	COMMON /RADCOM/ TLOWL, TMIDL, NLAYOZ	SRADCOM 22
00360	COMMON /RADCOM/ FK(5), XK(5), NFK	SRADCOM 23
00361	COMMON /RADCOM/ OLJAN(19), OLAPR(19), OLOCT(19)	SRADCOM 24
00362	COMMON /RADCOM/ OCM22(23), OCM30(23), OCM38(23), OCM46(23)	SRADCOM 25
00363	COMMON /RADCOM/ PROCM(23), OCMXX(23), NOZ, TOTOZ(4), CDATE(6)	SRADCOM 26
00364	COMMON /RADCOM/ CZH(72), WET(72), EVAP, PREP(72), WI(72)	SRADCOM 27
00365	COMMON /RADCOM/ COSZ(72), SO, RADTRM(72), CXL	SRADCOM 28
00366	COMMON /RADCOM/ SG(72), SP(72)	SRADCOM 29
00367	COMMON /RADCOM/ RSURF(72), RCLLOUD(72), JALB	SRADCOM 30
00368	COMMON /RADCOM/ LAND(72), OCEAN(72), ICE(72)	SRADCOM 31
00369	COMMON /RADCOM/ SNOW(72), MIXWI(72), FROST(72)	SRADCOM 32
00370	LOGICAL LAND, OCEAN, ICE, SNOW, MIXWI, FROST	SRADCOM 33
		SRADCOM 34
		SRADCOM 35
		SRADCOM 36

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00371	COMMON /PCON / PCMID(72)	SPCON 2
00372	COMMON /PCON / PCPEN(72)	SPCON 3
00373	COMMON /PCON / PCLOW(72)	SPCON 4
		SPCON 5
		SPCON 6
		SPCON 7

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00416      CLOUD(I,L) = 0.
00417      11 CONTINUE

      C
      C*****
      C      COMPUTE PRESSURES AT MID-
      C      AND EDGE- LEVELS
      C*****
      C
00418      DO 20 L=1,NLAY
00419      DO 20 I=1,IM
00420      PL(I,L) = SIG(L)*SP(I) + PTOP
00421      PLE(I,L) = SIGE(L)*SP(I) + PTOP
00422      20 CONTINUE
00423      DO 30 I=1,IM
00424      PLE(I,NLAYP1) = SP(I) + PTOP
00425      30 CONTINUE

      C
      C*****
      C      COMPUTE P**K AT MID LEVELS
      C*****
      C
00426      DO 31 L=1,NLAY
00427      DO 31 I=1,IM
00428      PLK(I,L) = EXPBYK(PL(I,L))
00429      31 CONTINUE

      C
      C*****
      C      COMPUTE SURFACE WINDS
      C*****
      C
00430      DO 1010 I=1,IM
00431      US(I) = STERP1*U(I,NLAY,NB,J) + STERP2*U(I,NLAYM1,NB,J)
00432      VS(I) = STERP1*V(I,NLAY,NB,J) + STERP2*V(I,NLAYM1,NB,J)
00433      WMAGS(I) = US(I)**2 + VS(I)**2
00434      1010 CONTINUE

      C
      C*****
      C      GROUND TEMPERATURE AND WETNESS
      C*****
      C
00435      DO 1020 I=1,IM
00436      IF (GW(I,J).LT.1.E-40)      GW(I,J) = 0.
00437      IF ( SNOW(I) )              GT(I,J) = AMIN1(GT(I,J),TICE)
00438      TG(I) = GT(I,J)
00439      WET(I) = 1.0
00440      IF (LAND(I))      WET(I) = GW(I,J)
00441      1020 CONTINUE

      C
      C*****
      C      COMPUTE DRY-CONVECTIVE ADJUSTMENT
      C*****
      C
00442      DO 40 N=1,3
00443      DO 41 I = 1,IM
00444      TH(I,1) = TL(I,1)/PLK(I,1)
00445      41 CONTINUE
00446      DO 42 L = 2,NLAY
00447      LM1 = L-1
00448      DO 43 I = 1,IM
00449      TH(I,L) = TL(I,L)/PLK(I,L)
00450      IF (TH(I,LM1).GE.TH(I,L))      GO TO 43

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C **** LATENT HEATING COEFFICIENT **** SCOMP3 193
C **** RELATIVE HUMIDITY **** SCOMP3 194
C **** NOTE: **** SCOMP3 195
C **** GAMFAC = L/CP * (E*L/R) **** SCOMP3 196
C **** SCOMP3 197
C **** SCOMP3 198
C **** SCOMP3 199
C DO 100 L=1,NLAY SCOMP3 200
C DO 100 I=1,IM SCOMP3 201
C SHSAT(I,L) = QSAT(TL(I,L),PL(I,L)) SCOMP3 202
C GAM(I,L) = GAMFAC*SHSAT(I,L)/TL(I,L)**2 SCOMP3 203
C RH(I,L) = SHL(I,L)/SHSAT(I,L) SCOMP3 204
C 100 CONTINUE SCOMP3 205
C SCOMP3 206
C SCOMP3 207
C SCOMP3 208
C SCOMP3 209
C **** DETERMINATION OF SURFACE LAYER TEMPERATURE TS(I,J) **** SCOMP3 210
C **** SURFACE LAYER SPECIFIC HUMIDITY SHS(I,J) **** SCOMP3 211
C **** AND SURFACE DENSITY RHOS(I) **** SCOMP3 212
C **** SCOMP3 213
C **** NOTE: PS = SURFACE PRESSURE **** SCOMP3 214
C **** PSK = SURFACE PRESSURE**KAPA **** SCOMP3 215
C **** RHS = HARMONIC MEAN OF RELATIVE HUMIDITY **** SCOMP3 216
C **** ZLN = THICKNESS OF PLANETARY BOUNDARY LAYER **** SCOMP3 217
C **** GAMC = TEMPERATURE DIFFERENCE RELATED **** SCOMP3 218
C **** TO DIFFERENCES BETWEEN MOIST- **** SCOMP3 219
C **** AND DRY-ADIABATIC LAPSE RATES **** SCOMP3 220
C **** THT9 = POTENTIAL TEMPERATURE AT **** SCOMP3 221
C **** LEVEL 9 WITH SURFACE PRESSURE **** SCOMP3 222
C **** AS REFERENCE **** SCOMP3 223
C **** DTS = TEMPERATURE CHANGE BETWEEN **** SCOMP3 224
C **** GROUND AND TOP OF P.B.L WITH **** SCOMP3 225
C **** MOISTURE CORRECTION **** SCOMP3 226
C **** ( DTS<0 : STABLE P.B.L **** SCOMP3 227
C **** ( DTS>0 : UNSTABLE P.B.L ) **** SCOMP3 228
C **** DRAW = AIR/SURFACE INTERACTION COEFFICIENT **** SCOMP3 229
C **** RICH = BULK RICHARDSON NUMBER **** SCOMP3 230
C **** EDNS = EDDY DIFFUSIVITY COEFFICIENT **** SCOMP3 231
C **** TDML = TEMPERATURE DIFFERENCE OF THE **** SCOMP3 232
C **** MIXED LAYER **** SCOMP3 233
C **** SCOMP3 234
C **** EVE = SOIL EVAPOTRANSPIRATION COEFFICIENT **** SCOMP3 235
C **** SCOMP3 236
C **** SCOMP3 237
C **** SCOMP3 238
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C **** SCOMP3 262
C **** SCOMP3 263
C DO 1040 I=1,IM SCOMP3 264
C PS = PLE(I,NLAYP1) SCOMP3 265
C PSK = EXPBYK(PS) SCOMP3 266
C RHS = 0. SCOMP3 267
C RHPWET = WET(I)*RH(I,NLAY) SCOMP3 268
C IF ( RHPWET .NE. 0.0 ) RHS = 2.*WET(I)*RH(I,NLAY)/RHPWET SCOMP3 269
C SHSATS = QSAT(TS(I,J),PS) SCOMP3 270
C TEMP = SHSATS/TS(I,J) SCOMP3 271
C ZLN = ZLNCO*TS(I,J)*SP(I)/PS SCOMP3 272
C THG = GAMFAC*TEMP/TS(I,J) SCOMP3 273
C GAMC = ZLN*RHS*GRAV/RGAS*ROCP*(THG-CLH*TEMP/ROCP)/(1.-THG) SCOMP3 274
C THT9 = TH(I,NLAY)*PSK SCOMP3 275
C DTS(I) = TG(I)-THT9+GAMC SCOMP3 276
C ***** SCOMP3 277
C IF (DTS(I).LT.0.) GO TO 110 SCOMP3 278
C ***** SCOMP3 279
C ** UNSTABLE P.B.L ** SCOMP3 280
C ***** SCOMP3 281
C TDML = DTS(I) * ( 0.1382 * SQRT( CD(I) ) * AMINI(WMAG(I),25.) SCOMP3 282

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00507 S TLE(I,NLAYP1) = THT9 + TDML - GAMC SCOMP3 264
00508 DTS(I) = TG(I) - TLE(I,NLAYP1) SCOMP3 265
00509 DRAW(I) = CD(I) - (WMAG(I) + SQRT(DTS(I))) SCOMP3 266
00510 EDNS = C10 + C100 * (1.-EXP(-1200./ZLN*TDML)) SCOMP3 267
00511 GO TO 118 SCOMP3 268
C SCOMP3 269
00512 C 110 CONTINUE SCOMP3 270
C SCOMP3 271
C SCOMP3 272
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C ***** CALCULATE SURFACE DENSITY *****
C ***** NOTE: RHOS HAS UNITS OF *****
C ***** 0.1 G/CM**3 OR *****
C ***** 100.0 KG/M**3 *****
C *****
00543      RHOS(I) = PS/(RGAS*TLE(I,NLAYP1))
00544 1040 CONTINUE

C *****
C ***** SURFACE FLUX OF SENSIBLE HEAT *****
C ***** SURFACE FLUX OF MOISTURE *****
C ***** NOTE: COEFS = G*DELT/DSIG *****
C *****
00545      DO 1050 I=1,IM
00546          DSHS(I) = SHG(I) - SHLE(I,NLAYP1)
00547          FSURF = COEFS*RHOS(I)*DRAW(I)/SP(I)
00548          TL(I,NLAY) = TL(I,NLAY) + FSURF*DTS(I)
00549          TH(I,NLAY) = TL(I,NLAY) / PLK(I,NLAY)
00550          SHL(I,NLAY) = SHL(I,NLAY) + FSURF*EVE(I)*DSHS(I)

C *****
C ***** SURFACE SKIN FRICTION *****
C *****
00551      U(I,NLAY,NB,J) = U(I,NLAY,NB,J) - CDFR*FSURF*US(I)
00552      V(I,NLAY,NB,J) = V(I,NLAY,NB,J) - CDFR*FSURF*VS(I)
00553 1050 CONTINUE

C *****
C ***** PREPARATION FOR MOIST CONVECTION *****
C *****
C ***** SSS = DRY STATIC ENERGY AT LEVEL L *****
C ***** SSSE = DRY STATIC ENERGY AT EDGE *****
C ***** HH = MOIST STATIC ENERGY AT LEVEL L *****
C ***** HHE = MOIST STATIC ENERGY AT EDGE *****
C ***** HHS = SATURATION MOIST STATIC ENERGY *****
C ***** AT LEVEL L *****
C ***** CVT = TOTAL TEMPERATURE CHANGE DUE *****
C ***** TO CUMULUS CONVECTION *****
C ***** CVQ = TOTAL MOISTURE CHANGE DUE *****
C ***** TO CUMULUS CONVECTION *****
C *****
00554      DO 1060 I=1,IM
00555          SSS(I,NLAY) = 0.
00556 1060 CONTINUE
00557      DO 1110 L=1,NLAY
00558          DO 1110 I=1,IM
00559              CVT(I,L) = 0.
00560              CVQ(I,L) = 0.
00561 1110 CONTINUE
C
00562      DO 180 LX=2,NLAY
00563          L = NLAY + 2 - LX
00564          LM1 = L-1
00565          FACL = DSIG(L)/(DSIG(L)+DSIG(LM1))
00566          FACLM1 = DSIG(LM1)/(DSIG(L)+DSIG(LM1))
00567          DO 1070 I=1,IM
00568              RKDN = PLK(I,L)/PLK(I,LM1)
00569              RKUP = 1./RKDN

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SCOMP3 405


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00570      SSSE(I,L) = SSS(I,L) + FACL*(TL(I,LM1)*RKDN - TL(I,L)) SCOMP3 406
00571      SSS(I,LM1) = SSSE(I,L) + FACLM1*(TL(I,LM1) - TL(I,L)*RKUP) SCOMP3 407
00572      SHLE(I,L) = FACL*SHL(I,LM1) + FACLM1*SHL(I,L) SCOMP3 408
00573      IF (SHLE(I,L).NE.0.) SHLE(I,L) = SHL(I,LM1)*SHL(I,L)/SHLE(I,L) SCOMP3 409
00574      SHLE(I,L) = AMIN1(SHLE(I,L), SHSAT(I,LM1) + (SSS(I,LM1)-SSSE(I,L))/CLH) SCOMP3 410
00575      HH(I,L) = SSS(I,L) + CLH*SHL(I,L) SCOMP3 411
00576      HHE(I,L) = SSSE(I,L) + CLH*SHLE(I,L) SCOMP3 412
00577      HHS(I,L) = SSS(I,L) + CLH*SHSAT(I,L) SCOMP3 413
00578      1070 CONTINUE SCOMP3 414
00579      180 CONTINUE SCOMP3 415
00580      DO 1080 I=1,IM SCOMP3 416
00581      HHS(I,1) = SSS(I,1) + CLH*SHSAT(I,1) SCOMP3 417
00582      1080 CONTINUE SCOMP3 418
C ..... SCOMP3 419
C ..... SCOMP3 420
C ..... SCOMP3 421
C ..... SCOMP3 422
C ..... CONSTRAIN SPECIFIC HUMIDITY BY ELIMINATING NEGATIVE VALUES ..... SCOMP3 423
C ..... SCOMP3 424
C ..... SCOMP3 425
C ..... SCOMP3 426
00583      DO 202 L=2,NLAY SCOMP3 427
00584      LM1 = L-1 SCOMP3 428
00585      DDSIG = DSIG(LM1)/DSIG(L) SCOMP3 429
00586      DO 1090 I=1,IM SCOMP3 430
00587      IF (SHL(I,LM1).GE.0.) GO TO 1090 SCOMP3 431
00588      SHL(I,L) = SHL(I,L) + SHL(I,LM1)*DDSIG SCOMP3 432
00589      SHL(I,LM1) = 0. SCOMP3 433
00590      1090 CONTINUE SCOMP3 434
00591      202 CONTINUE SCOMP3 435
00592      DO 1100 I=1,IM SCOMP3 436
00593      IF (SHL(I,NLAY).LT.0.) SHL(I,NLAY)=0. SCOMP3 437
00594      1100 CONTINUE SCOMP3 438
C ..... SCOMP3 439
C ..... SCOMP3 440
C ..... SCOMP3 441
C ..... CUMULUS PARAMETERIZATION ..... SCOMP3 442
C ..... SCOMP3 443
C ..... SCOMP3 444
C ..... SCOMP3 445
00595      CALL CUMULO(J) SCOMP3 446
C ..... SCOMP3 447
C ..... SCOMP3 448
C ..... SCOMP3 449
C ..... LARGE SCALE PRECIPITATION ..... SCOMP3 450
C ..... SCOMP3 451
C ..... PRECIP = PRECIPITATION DUE TO ..... SCOMP3 452
C ..... LARGE-SCALE SUPERSATURATION ..... SCOMP3 453
C ..... EXL = TOTAL SPECIFIC HUMIDITY CHANGE ..... SCOMP3 454
C ..... FROM LEVEL L-1 ..... SCOMP3 455
C ..... EX = TOTAL SPECIFIC HUMIDITY CHANGE ..... SCOMP3 456
C ..... TO LEVEL L ..... SCOMP3 457
C ..... SCOMP3 458
C ..... DIAGNOSTICS: ..... SCOMP3 459
C ..... ICLOUD(I,J) ..... SCOMP3 460
C ..... PREACC(I,J) = TOTAL ACCUMULATED PRECIP ..... SCOMP3 461
C ..... FROM LARGE AND SMALL SCALE ..... SCOMP3 462
C ..... (.1MM/DAY) ..... SCOMP3 463
C ..... PRECON(I,J) = TOTAL ACCUMULATED PRECIP ..... SCOMP3 464
C ..... FROM CUMULUS CONVECTION ..... SCOMP3 465
C ..... (.1MM/DAY) ..... SCOMP3 466
C ..... SCOMP3 467
C ..... SCOMP3 468
C ..... SCOMP3 469
00596      DO 300 L=2,NLAY SCOMP3 470
00597      LM1 = L-1 SCOMP3 471
00598      DDSIG = DSIG(LM1)/DSIG(L) SCOMP3 472
00599      DO 1120 I=1,IM SCOMP3 473
00600      IF (SHL(I,LM1).LE.SHSAT(I,LM1)) GO TO 1120 SCOMP3 474
00601      EXL = (SHL(I,LM1)-SHSAT(I,LM1)) / (1.+GAM(I,LM1)) SCOMP3 475
00602      EX = EXL*DDSIG SCOMP3 476

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00603      CLOUD(I,LM1) = 1.
00604      IF (QOUT) ICLOUD(I,J) = ICLOUD(I,J) + 2** (LM1+5)
00605      TL(I,LM1) = TL(I,LM1) + EXL*CLH
00606      SHL(I,LM1) = SHL(I,LM1) - EXL
00607      TL(I,L) = TL(I,L) - EX*CLH
00608      SHL(I,L) = SHL(I,L) + EX
00609      SHSAT(I,L) = QSAT(TL(I,L),PL(I,L))
00610      GAM(I,L) = GAMFAC*SHSAT(I,L)/(TL(I,L)*TL(I,L))
00611 1120 CONTINUE
00612 300 CONTINUE
C
00613 DO 1130 I=1,IM
00614   PRECIP = 0.
00615   EXL = 0.
00616   IF (SHL(I,NLAY).LE.SHSAT(I,NLAY)) GO TO 320
00617   CLOUD(I,NLAY) = 1.
00618   IF (QOUT) ICLOUD(I,J) = ICLOUD(I,J) + 2** (NLAY+5)
00619   DO 310 N=1,3
00620   EX = (SHL(I,NLAY)-SHSAT(I,NLAY)) / (1.+GAM(I,NLAY))
00621   EXL = EXL + EX
00622   TL(I,NLAY) = TL(I,NLAY) + CLH*EX
00623   SHL(I,NLAY) = SHL(I,NLAY) - EX
00624   SHSAT(I,NLAY) = QSAT(TL(I,NLAY),PL(I,NLAY))
00625   GAM(I,NLAY) = GAMFAC*SHSAT(I,NLAY)/(TL(I,NLAY)*TL(I,NLAY))
00626 310 CONTINUE
00627   PRECIP = EXL*DSIG(NLAY)*.1*SP(I)/GRAV
00628 320 CONTINUE
C
00629   PREP(I) = PRECIP + PCMID(I) + PCLOW(I) + PCPEN(I)
00630   PREACC(I,J) = PREACC(I,J) + 1.E4*CUMDAY* PREP(I)
00631   PRECON(I,J) = PRECON(I,J) + 1.E4*CUMDAY*(PREP(I) - PRECIP)
00632 1130 CONTINUE
C
C *****
C *****
C ***** ELIMINATE NEGATIVE SPECIFIC HUMIDITY *****
C *****
C *****
C
DO 410 L=2,NLAY
00633   LM1 = L-1
00634   DDSIG = DSIG(LM1)/DSIG(L)
00635   DO 1140 I=1,IM
00636   IF (SHL(I,LM1).GE.0.) GO TO 1140
00637   SHL(I,L) = SHL(I,L) + SHL(I,LM1)*DDSIG
00638   SHL(I,LM1) = 0.
00639 1140 CONTINUE
00640 410 CONTINUE
DO 1150 I=1,IM
00641   IF (SHL(I,NLAY).LT.0.) SHL(I,NLAY) = 0.
00642   IF (SHLE(I,NLAYP1).LT.0.) SHLE(I,NLAYP1) = 0.
00643 1150 CONTINUE
C
C *****
C *****
C ***** RADIATION SUBROUTINES *****
C *****
C *****
C
00646 CALL RADIO (J)
C
C *****
C *****
C ***** DETERMINATION OF GROUND TEMPERATURE *****
C *****
C ***** GROUND TEMPERATURE GT(I,J) *****
C ***** SURFACE SPECIFIC HUMIDITY SHS(I,J) *****
C *****
C ***** HEATW = HEAT COEF OVER LAND, WATER *****
C ***** HEATI = HEAT COEF OVER ICE, SNOW, FROST *****
C ***** EPSFAC = EPS*HEATW/RGAS + CALTOJ *****

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C ***** EPS = RATIO OF MOLECULAR WEIGHTS OF WATER VAPOR AND DRY AIR *****
C ***** CALTOJ = CALORIE TO JOULE CONVERSION *****
C ***** EVAL = LATENT HEAT OF EVAPORATION *****
C ***** CZH = TOTAL HEAT CAPACITY *****
C ***** RADTRM = SOLAR - TERRESTRIAL RADIATION *****
C ***** STBO = STEFAN-BOLTZMAN CONSTANT *****
C ***** DRAD = D(R)/D(TG) *****
C ***** DSQG = L·D(E)/D(TG) *****
C ***** TERM2 = SENSIBLE HEAT FLUX *****
C ***** TERM3 = LATENT HEAT FLUX *****
C ***** TERM4 = HEATING DUE TO CONDUCTION *****
C *****
C ***** DIAGNOSTICS: *****
C ***** UPWARD SENSIBLE HEAT FLUX HFLUX(I,J) *****
C ***** UPWARD LATENT HEAT FLUX EFLUX(I,J) *****
C ***** HEATING DUE TO CONDUCTION FUSION(I,J) *****
C *****
C ***** NOTE: SINCE RHOS HAS UNITS OF 0.1 G/CM**3, *****
C ***** THEN FLUXES OF SENSIBLE AND LATENT *****
C ***** HEAT, (F AND LE), ARE IN *****
C ***** DECA-LANGLEY/UNIT TIME. *****
C ***** THEREFORE, THESE FLUXES MUST BE *****
C ***** SCALED BY: *****
C *****
C ***** F = F * 10 LANGLEY/DECA-LANGLEY *****
C ***** LE = LE * 10 LANGLEY/DECA-LANGLEY *****
C *****
C *****

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00647 DO 1160 I=1,IM
00648 EVAL = HEATW
00649 IF (OCEAN(I)) GO TO 660
00650 EVAL = HEATI
00651 IF (SNOW(I)) GO TO 610
00652 IF (ICE(I)) GO TO 620
00653 IF (FROST(I)) GO TO 630
00654 EVAL = HEATW
00655 CZH(I) = SQRT((.386+.15*WET(I))*(1.+WET(I))*2.E-3*SDAY/PI2)
00656 GO TO 650
00657 CONTINUE
00658 610 CZH(I) = 2.3
00659 GO TO 650
00660 620 CONTINUE
00661 CZH(I) = 5.1
00662 GO TO 650
00663 CONTINUE
00664 630 CZH(I) = SQRT((.331+.075*WET(I))*(2.+2.5*WET(I))*1.E-3*SDAY/PI2)
00665 650 CONTINUE
00666
00667 IF (ICE(I) .AND. Z(I).LT..1) TEM = 0.
00668 TGSQ = TG(I)**2
00669 DRAD = 4.*STBO*TGSQ-TG(I)
00670 DSQG = EPSFAC*SHG(I)/TGSQ
00671 660 CONTINUE
00672 TEMP = 10.*DRAW(I)*RHOS(I)*SDAY
00673 TERM2 = -CPP*TEMP*DTG(I)
00674 TERM3 = -EVAL*EVE(I)*TEMP*DSHS(I)
00675 HFLUX(I,J) = HFLUX(I,J) - CUMRAT*TERM2
00676 EFLUX(I,J) = EFLUX(I,J) - CUMRAT*TERM3
00677 SHS(I,J) = SHLE(I,NLAYP1)
00678 IF (OCEAN(I)) GO TO 690
00679 TERM4 = TEM*(TICE - TG(I))
00680 DENOM = SDAY*CZH(I)/DTG3 + DRAD - TEM
00681 S + TEMP*EDV(I) = ( CPP / ( DRAW(I) + EDV(I) )
00682 S + EVAL*EVE(I) = DSQG / (EVACO(I) + EDV(I) )
00683 GT(I,J) = TG(I) + (RADTRM(I) + TERM2 + TERM3 + TERM4)/DENOM
00684 FUSION(I,J) = FUSION(I,J) + CUMRAT*TERM4
00685 690 CONTINUE
00686 1160 CONTINUE
C

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00713      ASGL = 1./DSIG(L)
00714      ASGLM1 = 1./DSIG(LM1)
      C
00715      DO 870 I=1,IM
00716      UUP(I) = UDN(I)
00717      VUP(I) = VDN(I)
00718      TUP(I) = TDN(I)
00719      UDN(I) = U(I,L,NB,J)
00720      VDN(I) = V(I,L,NB,J)
00721      TDN(I) = T(I,L,NB,J)
      C
00722      DUDSIG = (UUP(I)-UDN(I))*DELSIG
00723      DVDSIG = (VUP(I)-VDN(I))*DELSIG
00724      POTBAR = ( DSIG(LM1)*PL(I,LM1)/TUP(I)
      S      + DSIG(L)*PL(I,L)/TDN(I) ) *DSIGBR
      C
00725      TEMP = FCOEF(I) * POTBAR**2
00726      TEMPU = TEMP * DUDSIG
00727      TEMPV = TEMP * DVDSIG
      C
00728      U(I,LM1,NB,J) = U(I,LM1,NB,J) - TEMPU*ASGLM1
00729      U(I,L,NB,J) = U(I,L,NB,J) + TEMPU*ASGL
00730      V(I,LM1,NB,J) = V(I,LM1,NB,J) - TEMPV*ASGLM1
00731      V(I,L,NB,J) = V(I,L,NB,J) + TEMPV*ASGL
      C
00732      870 CONTINUE
00733      860 CONTINUE
      C
00734      900 CONTINUE
00735      RETURN
00736      END

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SCOMP3 720

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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10	411	406	
100	491	486	487
1000	405	397	
10000	396		
1010	434	430	
1020	441	435	
1030	463	459	
1040	544	492	
1050	553	545	
1060	556	554	
1070	578	567	
1080	582	580	
1090	590	586	587
11	417	412	413
110	512	505	
1100	594	592	
1110	561	557	558
1120	611	599	600
1130	632	613	
1140	640	636	637
1150	645	642	
1160	684	647	
1170	694	689	
118	529	511	
1180	700	696	
120	542	537	
130	579	562	
20	422	418	419
202	591	583	
30	425	423	
300	612	596	
31	429	426	427
310	626	619	
320	628	616	
40	458	442	
41	445	443	

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410	641	633	
42	457	446	
43	456	448	450
520	695	688	
521	687	685	
610	657	651	
620	660	652	
630	663	653	
650	665	656	659 662
660	671	649	
690	683	678	
80	485	465	470
850	708	703	
860	733	709	
870	732	715	
900	734	702	

VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES
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A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

AAA		REAL	SIMPLE	518/S	521	521	521	522	522									
ADATE	CCNTRL	CHAR*8	SIMPLE	3	16													
ADLDP	RDPARM	REAL	SIMPLE	206														
AL	RADCOM	REAL	ARRAY	354														
ALBEDO	QANDQT	REAL	ARRAY	244	262													
APHEL	RCNTRL	REAL	SIMPLE	146														
AS	RADCOM	REAL	ARRAY	339	690													
ASGL		REAL	SIMPLE	467/S	479	484	713/S	729	731									
ASGLM1		REAL	SIMPLE	468/S	478	483	714/S	728	730									
ASGPLS		REAL	SIMPLE	469/S	472	473												
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17													
BBB		REAL	SIMPLE	519/S	521	521	522	522										
BETA	RCNTRL	REAL	SIMPLE	147														
C10	CNTRLP	REAL	SIMPLE	309	510	518	519	519	528									
C100	CNTRLP	REAL	SIMPLE	310	510													
C40	CNTRLP	REAL	SIMPLE	311	512	519	528											
CALTOJ	RCNTRL	REAL	SIMPLE	185														
CC	CCNTRL	CHAR*8	ARRAY	14	15													
CCO	CCNTRL	CHAR*8	SIMPLE	2	14	15												
CCO		REAL	SIMPLE	520/S	521	522	522	5	6	7	8	9	10	11	12			
CCNTRL		REAL	UNKNOWN	2	3	4												
				13														
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20													
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21													
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22													
CD	DCOMP3	REAL	ARRAY	380	461/S	462/S	506	506	509	517	526							
CDATE	RADCOM	REAL	ARRAY	363														
CDFR	CNTRLP	REAL	SIMPLE	297	551	552												
CDXL	CNTRLP	REAL	SIMPLE	298	462													
CDXO	CNTRLP	REAL	SIMPLE	299	461													
CLH	CNTRLP	REAL	SIMPLE	300	502	540	574	575	576	577	581	605	607	622				
CLOUD	RADCOM	REAL	ARRAY	345	408/S	409/S	410/S	416/S	603/S	617/S								
CNTRLP		REAL	UNKNOWN	297	298	299	300	301	302	303	304	305	306	307				
				308	309	310	311	312	313	314	315	316	317	318				
				319	320	321	322	323	324	325	326	327	328	329				
				330	331	332	333	334	335	336	337							
COE	CNTRLP	REAL	ARRAY	301	690													
COEF	CNTRLP	REAL	SIMPLE	302														
COEFS	CNTRLP	REAL	SIMPLE	303	547													
COLMR	DCOMP3	REAL	ARRAY	374	686/S	690												
COMP3			SUBROUTINE	1														
CON1	RDPARM	REAL	SIMPLE	207														
CON1DT	RDPARM	REAL	SIMPLE	208														
CON2	RDPARM	REAL	SIMPLE	209														
CON2DT	RDPARM	REAL	SIMPLE	210														
CON3	RDPARM	REAL	SIMPLE	211														
CON3DT	RDPARM	REAL	SIMPLE	212														
CON4	RDPARM	REAL	SIMPLE	213														
CON4DT	RDPARM	REAL	SIMPLE	214														
CON5	RDPARM	REAL	SIMPLE	215														
COSD	RCNTRL	REAL	SIMPLE	148														

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COSL	RDPARM	REAL	ARRAY	216																
COSLON	RDPARM	REAL	ARRAY	217																
COSROT	CNTRL P	REAL	SIMPLE	304																
COSZ	RADCOM	REAL	ARRAY	365																
CP	RCNTRL	REAL	SIMPLE	149																
CPD2	RDPARM	REAL	SIMPLE	218																
CPP	CNTRL P	REAL	SIMPLE	305	673	680														
CQS	CCNTRL	REAL	ARRAY	12																
CQU	CCNTRL	REAL	ARRAY	13																
CTID	CNTRL P	REAL	SIMPLE	306	667															
CUMDAY	CNTRL P	REAL	SIMPLE	307	630	631	693													
CUMRAT	CNTRL P	REAL	SIMPLE	308	675	676	682													
CVQ	RADCOM	REAL	ARRAY	351	560/S															
CVT	RADCOM	REAL	ARRAY	351	559/S															
CXDE	RADCOM	REAL	ARRAY	352																
CXL	RADCOM	REAL	SIMPLE	365																
CZH	RADCOM	REAL	ARRAY	364	655/S	658/S	661/S	664/S	680											
DAYS PY	RCNTRL	REAL	SIMPLE	150																
DCOMP3		REAL	UNKNOWN	374	375	376	377	378	379	380	381	382	383	384						
				385	386	387	388	389	390	391	392	393	394	395						
DDSIG		REAL	SIMPLE	585/S	588	598/S	602	635/S	638											
DEC		REAL	SIMPLE	151																
DECMAX	RCNTRL	REAL	SIMPLE	152																
DELSIG		REAL	SIMPLE	712/S	722	723														
DELTA	CNTRL P	REAL	SIMPLE	312																
DENOM		REAL	SIMPLE	517/S	518	519	519	523	680/S	681										
DIABAT	QANDQT	REAL	ARRAY	285	294	693/S	693													
DIST	RCNTRL	REAL	SIMPLE	153																
DLAT	RCNTRL	REAL	SIMPLE	154																
DLON	RCNTRL	REAL	SIMPLE	155																
DRAD		REAL	SIMPLE	669/S	680															
DRAW	DCOMP3	REAL	ARRAY	382	509/S	526/S	532	547	672	680										
DSHS	DCOMP3	REAL	ARRAY	388	546/S	550	674													
DSIG	RDPARM	REAL	ARRAY	239	451	451	451	451	467	468	469	469	472	472						
				473	473	565	565	565	566	566	566	566	585	585						
				598	627	635	635	711	711	713	714	724	724	724						
DSIGBR		REAL	SIMPLE	711/S	724															
DSQG		REAL	SIMPLE	670/S	680															
DT	RCNTRL	REAL	SIMPLE	156																
DTC3	CNTRL P	REAL	SIMPLE	313	471	680														
DTL		REAL	SIMPLE	690/S	691	693														
DTOUT	CNTRL P	REAL	SIMPLE	314																
OTS	DCOMP3	REAL	ARRAY	381	504/S	505	506	508/S	509	519	519	520	523	523						
				525/S	526	548	673													
DU		REAL	SIMPLE	513/S	515															
DUDSIG		REAL	SIMPLE	722/S	726															
DUDVS		REAL	SIMPLE	515/S	518	519	527													
DV		REAL	SIMPLE	514/S	515															
DVDSIG		REAL	SIMPLE	723/S	727															
DXP	RDPARM	REAL	ARRAY	219																
DXYP	RDPARM	REAL	ARRAY	220																
DYP	RDPARM	REAL	ARRAY	221																
ECCN	RCNTRL	REAL	SIMPLE	157																
ED	CNTRL P	REAL	SIMPLE	315	464															
EDLE		REAL	SIMPLE	464/S	471															
EDNM	CNTRL P	REAL	SIMPLE	316	523															
EDNS		REAL	SIMPLE	510/S	528/S	530														
EDV	DCOMP3	REAL	ARRAY	384	530/S	535	535	680	680	680										
EFLUX	QANDQT	REAL	ARRAY	255	273	676/S	676													
EPS	RCNTRL	REAL	SIMPLE	183																
EPSFAC	RCNTRL	REAL	SIMPLE	184	670															
EVACO	DCOMP3	REAL	ARRAY	386	532/S	533/S	533	535	535	680										
EVAL		REAL	SIMPLE	648/S	650/S	654/S	674	680												
EVAP	RADCOM	REAL	SIMPLE	364																
EVE	DCOMP3	REAL	ARRAY	385	531/S	532	550	674	680											
EX		REAL	SIMPLE	602/S	607	608	620/S	621	622	623										
EXL		REAL	SIMPLE	601/S	602	605	606	615/S	621/S	621	627									
F1DT	RDPARM	REAL	SIMPLE	223																
F2DT	RDPARM	REAL	SIMPLE	224																

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				716	716	717	717	718	718	719	719	720	720	721
				721	722	722	723	723	724	724	724	724	725	728
				728	729	729	730	730	731	731				
IC	ICNTRL	INTEGER	ARRAY	90	91									
ICO	ICNTRL	INTEGER	SIMPLE	25	90	91								
ICE	RADCOM	LOGICAL	ARRAY	368	370	398/S	399	400	652	667				
ICLOUD	QANDQT	INTEGER	ARRAY	259	277	604/S	604	618/S	618					
ICNTRL		INTEGER	UNKNOWN	25	26	27	28	29	30	31	32	33	34	35
				36	37	38	39	40	41	42	43	44	45	46
				47	48	49	50	51	52	53	54	55	56	57
				58	59	60	61	62	63	64	65	66	67	68
				69	70	71	72	73	74	75	76			
ICSP53	ICNTRL	INTEGER	SIMPLE	66										
ICSP55	ICNTRL	INTEGER	SIMPLE	68										
IDIABAT	ICNTRL	INTEGER	UNKNOWN	88										
IDPARM		INTEGER	UNKNOWN	189	190	191	192	193	194	195	196	197	198	199
IDSP02	IDPARM	INTEGER	SIMPLE	190										
IEFLUX	ICNTRL	INTEGER	UNKNOWN	82										
IFUSION	ICNTRL	INTEGER	UNKNOWN	83										
IHFLUX	ICNTRL	INTEGER	UNKNOWN	81										
IICLOUD	ICNTRL	INTEGER	UNKNOWN	86										
IJUMP	IDPARM	INTEGER	ARRAY	189										
IM	ICNTRL	INTEGER	SIMPLE	26	397	406	413	419	423	427	430	435	443	448
				459	470	487	492	545	554	558	567	580	586	592
				599	613	636	642	647	685	689	696	703	715	
IMD2	ICNTRL	INTEGER	SIMPLE	27										
IMD2P1	ICNTRL	INTEGER	SIMPLE	28										
INDEX	IDPARM	INTEGER	ARRAY	191										
IOMEGA	ICNTRL	INTEGER	UNKNOWN	87										
IPREACC	ICNTRL	INTEGER	UNKNOWN	79										
IPRECON	ICNTRL	INTEGER	UNKNOWN	80										
IQS	ICNTRL	INTEGER	ARRAY	75	77	78	79	80	81	82	83	84	85	86
IQU	ICNTRL	INTEGER	ARRAY	76	87	88	89							
IRADLWG	ICNTRL	INTEGER	UNKNOWN	85										
IRADSW	ICNTRL	INTEGER	UNKNOWN	89										
IRADSWG	ICNTRL	INTEGER	UNKNOWN	84										
IROD	IDPARM	INTEGER	SIMPLE	192										
ITAPE	IDPARM	LOGICAL	SIMPLE	201	204									
ITMAX	ICNTRL	INTEGER	UNKNOWN	78										
ITMIN	ICNTRL	INTEGER	UNKNOWN	77										
J		INTEGER	SIMPLE	1	398	399	401	401	403	404	407	414	415	431
				431	432	432	436	436	437	437	438	440	498	499
				500	501	513	514	551	551	552	552	595	604	604
				618	618	630	630	631	631	646	675	675	676	676
				677	681	682	682	690	691	691	692	693	693	697
				698	698	698	699	699	699	701	705	706	707	719
				720	721	728	728	729	729	730	730	731	731	
JALB	RADCOM	INTEGER	SIMPLE	367										
JC	IDPARM	INTEGER	ARRAY	193										
JE	IDPARM	INTEGER	ARRAY	194										
JIC	CCNTRL	CHAR*B	SIMPLE	5	18									
JM	ICNTRL	INTEGER	SIMPLE	30										
JMD2	ICNTRL	INTEGER	SIMPLE	31										
JMT2	ICNTRL	INTEGER	SIMPLE	32										
JNP	ICNTRL	INTEGER	SIMPLE	33										
JO4	ICNTRL	INTEGER	SIMPLE	34										
JO8	ICNTRL	INTEGER	SIMPLE	35										
JOB	CCNTRL	CHAR*B	SIMPLE	6	19									
JP	IDPARM	INTEGER	ARRAY	195										
JSP	ICNTRL	INTEGER	SIMPLE	36										
KLIALB	ICNTRL	INTEGER	SIMPLE	37										
KLIGW	ICNTRL	INTEGER	SIMPLE	38										
KLISST	ICNTRL	INTEGER	SIMPLE	39										
KS	ICNTRL	INTEGER	SIMPLE	40										
KSTEP	IDPARM	INTEGER	SIMPLE	196										
KU	ICNTRL	INTEGER	SIMPLE	41										
L		INTEGER	SIMPLE	412/C	414	414	415	415	416	418/C	420	420	421	421
				426/C	428	428	446/C	447	449	449	449	450	451	451
				451	451	453	455	455	465/C	466	467	469	472	472
				472	473	473	474	474	475	475	479	479	481	481

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				481	484	484	486/C	488	488	488	489	489	489	490
				490	490	557/C	559	560	563/S	564	565	565	566	568
				570	570	570	571	571	572	572	573	573	573	573
				574	574	574	575	575	575	575	576	576	577	577
				577	583/C	584	585	588	588	586/C	597	598	607	607
				608	608	609	609	609	610	610	610	610	633/C	634
				635	638	638	688/C	690	690	690	690	690	690	691
				691	692	692	693	693	709/C	710	711	711	713	719
				720	721	724	724	729	729	731	731	712		
LAND	RADCOM	LOGICAL	ARRAY	368	370	400/S	401	402/S	402	403	440			
LC	LCNTRL	LOGICAL	ARRAY	143	144									
LCO	LCNTRL	LOGICAL	SIMPLE	92	143	144								
LCNTRL		INTEGER	UNKNOWN	92	93	94	95	96	97	98	99	100	101	102
				103	104									
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	116	141									
LDPARM		INTEGER	UNKNOWN	200	201	202								
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	110	135									
LFUSION	LCNTRL	LOGICAL	UNKNOWN	111	136									
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	109	134									
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	139									
LM1		INTEGER	SIMPLE	447/S	450	451	451	451	451	452	454	454	455/S	468
				469	472	472	472	473	473	474	474	475	475	478
				478	480	480	480	483	483	564/S	565	566	566	568
				570	571	571	572	573	574	574	584/S	585	587	588
				589	597/S	598	600	600	601	601	603	603	604	605
				605	606	606	634/S	635	637	638	639	710/S	711	712
				714	724	724	728	728	730	730				
LOG8R	ICNTRL	INTEGER	SIMPLE	42										
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	115	140									
LPREACC	LCNTRL	LOGICAL	UNKNOWN	107	132									
LPRECON	LCNTRL	LOGICAL	UNKNOWN	108	133									
LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114
				128										
LQU	LCNTRL	LOGICAL	ARRAY	104	115	116	117	129						
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138									
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	142									
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	112	137									
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131									
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130									
LX		INTEGER	SIMPLE	562/C	563									
MATIN	ICNTRL	INTEGER	SIMPLE	43										
MATSNX	ICNTRL	INTEGER	SIMPLE	44										
MATSUN	ICNTRL	INTEGER	SIMPLE	45										
MIXWI	RADCOM	LOGICAL	ARRAY	369	370									
MJ	IDPARM	INTEGER	ARRAY	197										
MLF	ICNTRL	INTEGER	ARRAY	46										
MROD	ICNTRL	INTEGER	SIMPLE	47										
MSM	ICNTRL	INTEGER	SIMPLE	49										
N		INTEGER	SIMPLE	442/C	619/C									
NB	ICNTRL	INTEGER	SIMPLE	50	407	414	415	431	431	432	432	513	514	551
				551	552	552	690	691	691	692	705	705	707	719
				720	721	728	728	729	729	730	730	731	731	
ND	ICNTRL	INTEGER	SIMPLE	51										
NDALT	ICNTRL	INTEGER	SIMPLE	52										
NDAY	ICNTRL	INTEGER	SIMPLE	53										
NDHOG	ICNTRL	INTEGER	SIMPLE	74										
NDOUT	ICNTRL	INTEGER	SIMPLE	54										
NDPHY	ICNTRL	INTEGER	SIMPLE	55										
NDRSW	ICNTRL	INTEGER	SIMPLE	29										
NDSHF	ICNTRL	INTEGER	SIMPLE	56										
NDT	ICNTRL	INTEGER	SIMPLE	57										
NDTC3	CNTRLP	INTEGER	SIMPLE	323										
NFK	RADCOM	INTEGER	SIMPLE	360										
NFLW	CNTRLP	INTEGER	SIMPLE	324										
NHMS	ICNTRL	INTEGER	SIMPLE	58										
NHMSO	ICNTRL	INTEGER	SIMPLE	60										
NHMSI	IDPARM	INTEGER	SIMPLE	198										
NHMSE	ICNTRL	INTEGER	SIMPLE	59										
NKRSH	ICNTRL	INTEGER	SIMPLE	48										
NLAY	ICNTRL	INTEGER	SIMPLE	61	409	410	412	418	426	431	432	446	465	486

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				496	497	503	513	514	535	548	548	549	549	549
				550	550	551	551	552	552	555	557	562	563	583
				593	593	596	616	616	617	618	620	620	620	622
				622	623	623	624	624	624	625	625	625	625	627
				633	643	643	688	709						
				62	431	432								
NLAYM1	ICNTRL	INTEGER	SIMPLE	359										
NLAYOZ	RADCOM	INTEGER	SIMPLE	63	408	424	493	507	508	524	525	535	536	537
NLAYP1	ICNTRL	INTEGER	SIMPLE	538	538	539	540	540	541	541	543	546	644	644
				677	697									
				73										
NMLEV	ICNTRL	INTEGER	SIMPLE	363										
NOZ	RADCOM	INTEGER	SIMPLE	64										
NSDAY	ICNTRL	INTEGER	SIMPLE	65										
NSEQ	ICNTRL	INTEGER	SIMPLE	67										
NSTEP	ICNTRL	INTEGER	SIMPLE	69										
NYMD	ICNTRL	INTEGER	SIMPLE	71										
NYMD0	ICNTRL	INTEGER	SIMPLE	199										
NYMD1	IDPARM	INTEGER	SIMPLE	70										
NYMDE	ICNTRL	INTEGER	SIMPLE	72										
NZINIT	ICNTRL	INTEGER	SIMPLE											
				368	370	399/S	400	404	462	649	678			
OCEAN	RADCOM	LOGICAL	ARRAY	362										
OCM22	RADCOM	REAL	ARRAY	362										
OCM30	RADCOM	REAL	ARRAY	362										
OCM38	RADCOM	REAL	ARRAY	362										
OCM46	RADCOM	REAL	ARRAY	363										
OCMXX	RADCOM	REAL	ARRAY	361										
OLAPR	RADCOM	REAL	ARRAY	361										
OLJAN	RADCOM	REAL	ARRAY	361										
OLJUL	RADCOM	REAL	ARRAY	361										
OLOCT	RADCOM	REAL	ARRAY	284	293									
OMEGA	QANDQT	REAL	ARRAY	161										
OMEGA2	RCNTRL	REAL	SIMPLE	355										
OZALE	RADCOM	REAL	ARRAY	249	267	407								
P	QANDQT	REAL	ARRAY	373	629									
PCLOW	PCON	REAL	ARRAY	371	629									
PCMID	PCON	REAL	ARRAY	371	372	373								
PCON		REAL	UNKNOWN	372	629									
PCPEN	PCON	REAL	ARRAY	283	292									
PHI	QANDQT	REAL	ARRAY	242	260	399	404							
PHIS	QANDQT	REAL	ARRAY	162										
PI	RCNTRL	REAL	SIMPLE	163										
PI180	RCNTRL	REAL	SIMPLE	164	655	664								
PI2	RCNTRL	REAL	SIMPLE	325	686									
PIM	CNTRL	REAL	SIMPLE	166										
PIMEAN	RCNTRL	REAL	SIMPLE	227										
PKSTD	RDPARM	REAL	SIMPLE	228										
PKTOP	RDPARM	REAL	SIMPLE	340	420/S	428	472	472	488	609	624	724	724	
PL	RADCOM	REAL	ARRAY	340	421/S	424/S	493							
PLE	RADCOM	REAL	ARRAY	180										
PLEVS	RCNTRL	REAL	ARRAY	341	428/S	444	449	451	451	454	455	473	473	480
PLK	RADCOM	REAL	ARRAY	481	549	568	568							
				341										
PLKE	RADCOM	REAL	ARRAY	724/S	725									
POTBAR		REAL	SIMPLE	252	270	530/S	630							
PREACC	QANDQT	REAL	ARRAY	614/S	627/S	629	631							
PRECIP		REAL	SIMPLE	253	271	631/S	631							
PRECON	QANDQT	REAL	ARRAY	354	629/S	630	631							
PREP	RADCOM	REAL	ARRAY	363										
PROCM	RADCOM	REAL	ARRAY	493/S	494	498	500	534	536	543				
PS		REAL	SIMPLE	494/S	503									
PSK		REAL	SIMPLE	167										
PSMAX	RCNTRL	REAL	SIMPLE	168										
PSMIN	RCNTRL	REAL	SIMPLE	165										
PSTD	RCNTRL	REAL	SIMPLE	169	420	421	424							
PTOP	RCNTRL	REAL	SIMPLE	186										
PZERO	RCNTRL	REAL	SIMPLE	93										
QALT	LCNTRL	LOGICAL	UNKNOWN	241	118									
QANDQT		REAL	UNKNOWN	94	278									
QBEG	LCNTRL	LOGICAL	SIMPLE	95	119									
QDAY	LCNTRL	LOGICAL	SIMPLE		120									

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QEND	LCNTRL	LOGICAL	SIMPLE	96	121											
QHOG	CNTRLP	LOGICAL	SIMPLE	326	338											
QOUT	LCNTRL	LOGICAL	SIMPLE	97	122	604	618									
QPHY	LCNTRL	LOGICAL	SIMPLE	98	123											
QSH	LCNTRL	LOGICAL	SIMPLE	102	127											
QSW	LCNTRL	LOGICAL	SIMPLE	101	126											
QS	QANDQT	REAL	ARRAY	241	260	261	262	263	264	265	266	267	268	269		
				270	271	272	273	274	275	276	277					
QSHF	LCNTRL	LOGICAL	SIMPLE	99	124											
QU	QANDQT	REAL	ARRAY	278	288	289	290	291	292	293	294	295	296			
RADCOM		REAL	UNKNOWN	339	340	341	342	343	344	345	346	347	348	349		
				350	351	352	353	354	355	356	357	358	359	360		
				361	362	363	364	365	366	367	368	369				
RADE	RCNTRL	REAL	SIMPLE	170												
RADLW	QANDQT	REAL	ARRAY	287	296											
RADLWG	QANDQT	REAL	ARRAY	258	276											
RADSW	QANDQT	REAL	ARRAY	286	295											
RADSWG	QANDQT	REAL	ARRAY	257	275											
RADTRM	RADCOM	REAL	ARRAY	365	681											
RC	RCNTRL	REAL	ARRAY	187	188											
RCO	RCNTRL	REAL	SIMPLE	145	187	188										
RCLLOUD	RADCOM	REAL	ARRAY	367												
RCNTRL		REAL	UNKNOWN	145	146	147	148	149	150	151	152	153	154	155		
				156	157	158	159	160	161	162	163	164	165	166		
				167	168	169	170	171	172	173	174	175	176	177		
				178	179	180	181	182	183	184	185	186				
RDPARM		REAL	UNKNOWN	206	207	208	209	210	211	212	213	214	215	216		
				217	218	219	220	221	222	223	224	225	226	227		
				228	229	230	231	232	233	234	235	236	237	238		
				239	240											
RE	RADCOM	REAL	ARRAY	339	680	680										
RGAS	RCNTRL	REAL	SIMPLE	171	471	502	543									
RH	RADCOM	REAL	ARRAY	347	490/S	496	497									
RHOS	DCOMP3	REAL	ARRAY	387	543/S	547	672									
RHPWET		REAL	SIMPLE	496/S	497	497										
RHS		REAL	SIMPLE	495/S	497/S	502										
RICH		REAL	SIMPLE	527/S	528											
RKDN		REAL	SIMPLE	568/S	569	570										
RKUP		REAL	SIMPLE	569/S	571											
RLAT	RDPARM	REAL	ARRAY	229	401	401										
RLATD	RDPARM	REAL	ARRAY	230												
RN	RADCOM	REAL	ARRAY	357												
ROCP	RCNTRL	REAL	SIMPLE	172	502	502										
ROCPDT	RDPARM	REAL	SIMPLE	231												
ROCPPI	RDPARM	REAL	SIMPLE	232												
RSDIST	RCNTRL	REAL	SIMPLE	173												
RSURF	RADCOM	REAL	ARRAY	367												
SO	RADCOM	REAL	SIMPLE	365												
SDAY	RCNTRL	REAL	SIMPLE	174	655	664	672	680								
SEASON	RCNTRL	REAL	SIMPLE	175												
SG	RADCOM	REAL	ARRAY	366												
SGNP	RDPARM	REAL	ARRAY	233												
SH	QANDQT	REAL	ARRAY	282	291	415	692/S									
SHG	RADCOM	REAL	ARRAY	345	534/S	535	546	670								
SHL	RADCOM	REAL	ARRAY	344	415/S	475	475	483/S	483	484/S	484	490	535	550		
				550	572	572	573	575	575	587	588/S	523	588	589		
				593	593/S	600	601	606/S	606	608/S	608	616	620	623		
				623	637	638/S	638	638	639/S	643	643/S	692				
				344	535/S	537	539	541/S	541	546	572/S	573	573/S	573		
SHLE	RADCOM	REAL	ARRAY	574/S	574	576	644	644/S	677							
SHLTOP	CNTRLP	REAL	SIMPLE	327												
SHS	QANDQT	REAL	ARRAY	248	266	677/S										
SHSAT	RADCOM	REAL	ARRAY	346	488/S	489	490	574	577	581	600	601	609/S	610		
				616	620	624/S	625									
SHSATS		REAL	SIMPLE	498/S	499	536/S	537	538	539	712	712					
SIG	RDPARM	REAL	ARRAY	240	420	474	474	475								
SIGE	RCNTRL	REAL	ARRAY	176	421											
SIND	RCNTRL	REAL	SIMPLE	177												
SINL	RDPARM	REAL	ARRAY	234												

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SINLON	RDPARM	REAL	ARRAY	235																
SINROT	CNTRL P	REAL	SIMPLE	328																
SMTH	QANDQT	REAL	ARRAY	243	261															
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125															
SNOW	RADCOM	LOGICAL	ARRAY	369	370	401/S	402	437	651											
SNOWN	CNTRL P	REAL	SIMPLE	329	401															
SNOWS	CNTRL P	REAL	SIMPLE	330	401															
SOLS	RCNTRL	REAL	SIMPLE	178																
SP	RADCOM	REAL	ARRAY	366	407/S	420	421	424	471	500	547	627	686	704						
SRS	RADCOM	REAL	ARRAY	357																
SSS	RADCOM	REAL	ARRAY	348	555/S	570	571/S	574	575	577	581									
SSSE	RADCOM	REAL	ARRAY	348	570/S	571	574	576												
START	LDPARM	LOGICAL	SIMPLE	202	205															
STBO	CNTRL P	REAL	SIMPLE	331	669															
STERP1	CNTRL P	REAL	SIMPLE	332	431	432														
STERP2	CNTRL P	REAL	SIMPLE	333	431	432														
STN	RADCOM	REAL	ARRAY	357																
SWALE	RADCOM	REAL	ARRAY	353																
SWIL	RADCOM	REAL	ARRAY	353																
T	QANDQT	REAL	ARRAY	281	290	414	690	691/S	691	707	721									
TAUL	RADCOM	REAL	ARRAY	355																
TCOND	RADCOM	REAL	ARRAY	358																
TDML		REAL	SIMPLE	506/S	507	510	521/S	522/S	523/S	523	524	527								
TDN	DCOMP3	REAL	ARRAY	395	707/S	718	721/S	724												
TEM		REAL	SIMPLE	666/S	667/S	679	680													
TEMP		REAL	SIMPLE	499/S	501	502	539/S	540	541	672/S	673	674	680	725						
				726	727															
TEMP1		REAL	SIMPLE	471/S	477	482														
TEMP2		REAL	SIMPLE	472/S	476/S	475	477	482												
TEMP3		REAL	SIMPLE	473/S	477															
TEMP4		REAL	SIMPLE	474/S	477															
TEMP5		REAL	SIMPLE	475/S	482															
TEMP6		REAL	SIMPLE	477/S	478	479	482/S	483	484											
TEMPU		REAL	SIMPLE	726/S	728	729														
TEMPV		REAL	SIMPLE	727/S	730	731														
TERM2		REAL	SIMPLE	673/S	675	681														
TERM3		REAL	SIMPLE	674/S	676	681														
TERM4		REAL	SIMPLE	679/S	681	682														
TG	RADCOM	REAL	ARRAY	343	438/S	504	508	515	525	534	668	669	679	681						
TGSQ		REAL	SIMPLE	668/S	669	670														
TH	RADCOM	REAL	ARRAY	343	444/S	449/S	450	450	452/S	453/S	474	474	480/S	481						
				503	549/S															
THETA		REAL	SIMPLE	451/S	452	453	454	455												
THG		REAL	SIMPLE	501/S	502	502														
THSTD	RDPARM	REAL	SIMPLE	236																
THSTD2	RDPARM	REAL	SIMPLE	237																
THT9		REAL	SIMPLE	503/S	504	507	524													
TICE	CNTRL P	REAL	SIMPLE	334	403	437	679													
TL	RADCOM	REAL	ARRAY	342	414/S	444	449	451	451	454/S	455/S	472	472	478						
				478	479/S	479	480	481	488	489	548/S	548	549	570						
				570	571	571	605/S	605	607/S	607	609	610	610	622						
				622	624	625	625	690												
TLE	RADCOM	REAL	ARRAY	342	507/S	508	524/S	525	536	538	538	540/S	540	543						
				697																
TLOWL	RADCOM	REAL	SIMPLE	359																
TLTOP	CNTRL P	REAL	SIMPLE	335																
TMAX	QANDQT	REAL	ARRAY	251	269	699/S	699													
TMIDL	RADCOM	REAL	SIMPLE	359																
TMIN	QANDQT	REAL	ARRAY	250	268	698/S	698													
TN	RADCOM	REAL	ARRAY	357																
TOPABS	RADCOM	REAL	ARRAY	356																
TOTOZ	RADCOM	REAL	ARRAY	363																
TPENE	RADCOM	REAL	ARRAY	358																
TS	QANDQT	REAL	ARRAY	247	265	498	499	500	501	697/S	698	699								
TSTD	RCNTRL	REAL	SIMPLE	179																
TUP	DCOMP3	REAL	ARRAY	394	718/S	724														
U	QANDQT	REAL	ARRAY	279	288	431	431	513	551/S	551	705	719	728/S	728						
				729/S	729															
UDN	DCOMP3	REAL	ARRAY	391	705/S	716	719/S	722												
US	DCOMP3	REAL	ARRAY	376	431/S	433	513	551												

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UUP	DCOMP3	REAL	ARRAY	390	716/S	722									
V	QANDQT	REAL	ARRAY	280	289	432	432	514	552/S	552	706	720	730/S	730	
				731/S	731										
VDN	DCOMP3	REAL	ARRAY	393	706/S	717	720/S	723							
VER	CCNTRL	CHAR*8	SIMPLE	10	23										
VS	DCOMP3	REAL	ARRAY	377	432/S	433	514	552							
VUP	DCOMP3	REAL	ARRAY	392	717/S	723									
WET	RADCOM	REAL	ARRAY	364	439/S	440/S	496	497	531	655	655	664	664		
WI	RADCOM	REAL	ARRAY	364											
WMAG	DCOMP3	REAL	ARRAY	379	460/S	461	506	509	516	517					
WMAGC	DCOMP3	REAL	ARRAY	383	515/S	525									
WMAGS	DCOMP3	REAL	ARRAY	378	433/S	460	516	518	519	523	526				
WSAVE	RDPARM	REAL	ARRAY	238											
XDAY	CNTRL	REAL	SIMPLE	336											
XK	RADCOM	REAL	ARRAY	360											
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24										
Z	DCOMP3	REAL	ARRAY	375	404/S	462	667								
ZLN		REAL	SIMPLE	500/S	502	510	517	518	519	527	530				
ZLNCO	CNTRL	REAL	SIMPLE	337	500										

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT FN DEF, A=ARGLIST
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ABS	REAL	INTRINSIC	521	522					
AMAX1	REAL	INTRINSIC	460	515	523	533	699		
AMIN1	REAL	INTRINSIC	437	461	506	531	574	698	
COMP35		SUBROUTINE	701						
CUMULO		SUBROUTINE	595						
EXP	REAL	INTRINSIC	510						
EXPBYK	REAL	FUNCTION	428	494					
QSAT	REAL	FUNCTION	488	498	534	536	609	624	
RADIO		SUBROUTINE	646						
SQRT	REAL	INTRINSIC	460	506	509	521	655	664	

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00001      SUBROUTINE COMP35 (J)
C
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00002      COMMON /CCNTRL/ CCO
00003      COMMON /CCNTRL/ ADATE
00004      COMMON /CCNTRL/ ATIME
00005      COMMON /CCNTRL/ JIC
00006      COMMON /CCNTRL/ JOB
00007      COMMON /CCNTRL/ CCSP06
00008      COMMON /CCNTRL/ CCSP07
00009      COMMON /CCNTRL/ CCSP08
00010      COMMON /CCNTRL/ VER
00011      COMMON /CCNTRL/ XLABEL (10)
00012      COMMON /CCNTRL/ CQS (30)
00013      COMMON /CCNTRL/ CQU (10)
C
00014      EQUIVALENCE (CC0,CC(1))
00015      CHARACTER*8 CCO, CC(200)
00016      CHARACTER*8 ADATE
00017      CHARACTER*8 ATIME
00018      CHARACTER*8 JIC
00019      CHARACTER*8 JOB
00020      CHARACTER*8 CCSP06
00021      CHARACTER*8 CCSP07
00022      CHARACTER*8 CCSP08
00023      CHARACTER*8 VER
00024      CHARACTER*8 XLABEL
C
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00025      COMMON /ICNTRL/ ICO
00026      COMMON /ICNTRL/ IM
00027      COMMON /ICNTRL/ IMD2
00028      COMMON /ICNTRL/ IMD2P1
00029      COMMON /ICNTRL/ NDORSW
00030      COMMON /ICNTRL/ JM
00031      COMMON /ICNTRL/ JMD2
00032      COMMON /ICNTRL/ JMT2
00033      COMMON /ICNTRL/ JNP
00034      COMMON /ICNTRL/ JO4
00035      COMMON /ICNTRL/ JO8
00036      COMMON /ICNTRL/ JSP
00037      COMMON /ICNTRL/ KLIALB
00038      COMMON /ICNTRL/ KLIGW
00039      COMMON /ICNTRL/ KLISST
00040      COMMON /ICNTRL/ KS
00041      COMMON /ICNTRL/ KU
00042      COMMON /ICNTRL/ LOGBR
00043      COMMON /ICNTRL/ MATIN
00044      COMMON /ICNTRL/ MATSNX
00045      COMMON /ICNTRL/ MATSUN
00046      COMMON /ICNTRL/ MLF (12)
00047      COMMON /ICNTRL/ MROD
00048      COMMON /ICNTRL/ NKRSH
00049      COMMON /ICNTRL/ MSM
00050      COMMON /ICNTRL/ NB
00051      COMMON /ICNTRL/ ND
00052      COMMON /ICNTRL/ NDALT
00053      COMMON /ICNTRL/ NDAY
00054      COMMON /ICNTRL/ NDOUT
00055      COMMON /ICNTRL/ NDPHY
00056      COMMON /ICNTRL/ NDSHF
00057      COMMON /ICNTRL/ NDT
00058      COMMON /ICNTRL/ NHMS
00059      COMMON /ICNTRL/ NHMSE
00060      COMMON /ICNTRL/ NHMSO
00061      COMMON /ICNTRL/ NLAY
00062      COMMON /ICNTRL/ NLAYM1
00063      COMMON /ICNTRL/ NLAYP1
00064      COMMON /ICNTRL/ NSDAY

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SCNTRL 71

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00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
C		SCNTRL 84
00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 85
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 86
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 87
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 88
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 89
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 91
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 92
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 93
00086	EQUIVALENCE (IICLOUD ,IQS(10))	SCNTRL 94
C		SCNTRL 95
00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 96
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 97
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 98
C		SCNTRL 99
00090	EQUIVALENCE (IC0,IC(1))	SCNTRL 100
00091	INTEGER IC0, IC(200)	SCNTRL 101
C		SCNTRL 102
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL 103
C	=====	SCNTRL 104
00092	COMMON /LCNTRL/ LCO	SCNTRL 105
00093	COMMON /LCNTRL/ QALT	SCNTRL 106
00094	COMMON /LCNTRL/ QBEG	SCNTRL 107
00095	COMMON /LCNTRL/ QDAY	SCNTRL 108
00096	COMMON /LCNTRL/ QEND	SCNTRL 109
00097	COMMON /LCNTRL/ QOUT	SCNTRL 110
00098	COMMON /LCNTRL/ QPHY	SCNTRL 111
00099	COMMON /LCNTRL/ QSHF	SCNTRL 112
00100	COMMON /LCNTRL/ SN2FLG	SCNTRL 113
00101	COMMON /LCNTRL/ QRSW	SCNTRL 114
00102	COMMON /LCNTRL/ QRSH	SCNTRL 115
00103	COMMON /LCNTRL/ LQS(30)	SCNTRL 116
00104	COMMON /LCNTRL/ LQU(10)	SCNTRL 117
C		SCNTRL 118
00105	EQUIVALENCE (LTMIN ,LQS(1))	SCNTRL 119
00106	EQUIVALENCE (LTMAX ,LQS(2))	SCNTRL 120
00107	EQUIVALENCE (LPREACC ,LQS(3))	SCNTRL 121
00108	EQUIVALENCE (LPRECON ,LQS(4))	SCNTRL 122
00109	EQUIVALENCE (LHFLUX ,LQS(5))	SCNTRL 123
00110	EQUIVALENCE (LEFLUX ,LQS(6))	SCNTRL 124
00111	EQUIVALENCE (LFUSION ,LQS(7))	SCNTRL 125
00112	EQUIVALENCE (LRADSWG ,LQS(8))	SCNTRL 126
00113	EQUIVALENCE (LRADLWG ,LQS(9))	SCNTRL 127
00114	EQUIVALENCE (LIICLOUD ,LQS(10))	SCNTRL 128
C		SCNTRL 129
00115	EQUIVALENCE (LOMEGA ,LQU(1))	SCNTRL 130
00116	EQUIVALENCE (LDIABAT ,LQU(2))	SCNTRL 131
00117	EQUIVALENCE (LRADSW ,LQU(3))	SCNTRL 132
C		SCNTRL 133
00118	LOGICAL QALT	SCNTRL 134
00119	LOGICAL QBEG	SCNTRL 135
00120	LOGICAL QDAY	SCNTRL 136
00121	LOGICAL QEND	SCNTRL 137
00122	LOGICAL QOUT	SCNTRL 138
00123	LOGICAL QPHY	SCNTRL 139
00124	LOGICAL QSHF	SCNTRL 140
00125	LOGICAL SN2FLG	SCNTRL 141
00126	LOGICAL QRSW	SCNTRL 142

00127		LOGICAL	QRSH	SCNTRL 143
00128	C	LOGICAL	LQS	SCNTRL 144
00129		LOGICAL	LQU	SCNTRL 145
00130		LOGICAL	LTMIN	SCNTRL 146
00131		LOGICAL	LTMAX	SCNTRL 147
00132		LOGICAL	LPREACC	SCNTRL 148
00133		LOGICAL	LPRECON	SCNTRL 149
00134		LOGICAL	LHFLUX	SCNTRL 150
00135		LOGICAL	LEFLUX	SCNTRL 151
00136		LOGICAL	LFUSION	SCNTRL 152
00137		LOGICAL	LRADSWG	SCNTRL 153
00138		LOGICAL	LRADLWG	SCNTRL 154
00139		LOGICAL	LICLOUD	SCNTRL 155
00140	C	LOGICAL	LOMEGA	SCNTRL 156
00141		LOGICAL	LDIABAT	SCNTRL 157
00142		LOGICAL	LRADSW	SCNTRL 158
00143	C	EQUIVALENCE	(LC0,LC(1))	SCNTRL 159
00144		LOGICAL	LC0, LC(200)	SCNTRL 160
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD		
	C	=====		
00145		COMMON	/RCNTRL/ RCO	SCNTRL 161
00146		COMMON	/RCNTRL/ APHEL	SCNTRL 162
00147		COMMON	/RCNTRL/ BETA	SCNTRL 163
00148		COMMON	/RCNTRL/ COSD	SCNTRL 164
00149		COMMON	/RCNTRL/ CP	SCNTRL 165
00150		COMMON	/RCNTRL/ DAYSPY	SCNTRL 166
00151		COMMON	/RCNTRL/ DEC	SCNTRL 167
00152		COMMON	/RCNTRL/ DECMAX	SCNTRL 168
00153		COMMON	/RCNTRL/ DIST	SCNTRL 169
00154		COMMON	/RCNTRL/ DLAT	SCNTRL 170
00155		COMMON	/RCNTRL/ DLON	SCNTRL 171
00156		COMMON	/RCNTRL/ DT	SCNTRL 172
00157		COMMON	/RCNTRL/ ECCN	SCNTRL 173
00158		COMMON	/RCNTRL/ GNU1	SCNTRL 174
00159		COMMON	/RCNTRL/ GNU2	SCNTRL 175
00160		COMMON	/RCNTRL/ GRAV	SCNTRL 176
00161		COMMON	/RCNTRL/ OMEGA2	SCNTRL 177
00162		COMMON	/RCNTRL/ PI	SCNTRL 178
00163		COMMON	/RCNTRL/ PI180	SCNTRL 179
00164		COMMON	/RCNTRL/ PI2	SCNTRL 180
00165		COMMON	/RCNTRL/ PSTD	SCNTRL 181
00166		COMMON	/RCNTRL/ PIMEAN	SCNTRL 182
00167		COMMON	/RCNTRL/ PSMAX	SCNTRL 183
00168		COMMON	/RCNTRL/ PSMIN	SCNTRL 184
00169		COMMON	/RCNTRL/ PTOP	SCNTRL 185
00170		COMMON	/RCNTRL/ RADE	SCNTRL 186
00171		COMMON	/RCNTRL/ RGAS	SCNTRL 187
00172		COMMON	/RCNTRL/ ROCP	SCNTRL 188
00173		COMMON	/RCNTRL/ RSDIST	SCNTRL 189
00174		COMMON	/RCNTRL/ SDAY	SCNTRL 190
00175		COMMON	/RCNTRL/ SEASON	SCNTRL 191
00176		COMMON	/RCNTRL/ SIGE (25)	SCNTRL 192
00177		COMMON	/RCNTRL/ SIND	SCNTRL 193
00178		COMMON	/RCNTRL/ SOLS	SCNTRL 194
00179		COMMON	/RCNTRL/ TSTD	SCNTRL 195
00180		COMMON	/RCNTRL/ PLEVS (25)	SCNTRL 196
00181		COMMON	/RCNTRL/ HEATW	SCNTRL 197
00182		COMMON	/RCNTRL/ HEATI	SCNTRL 198
00183		COMMON	/RCNTRL/ EPS	SCNTRL 199
00184		COMMON	/RCNTRL/ EPSFAC	SCNTRL 200
00185		COMMON	/RCNTRL/ CALTOJ	SCNTRL 201
00186		COMMON	/RCNTRL/ PZERO	SCNTRL 202
00187	C	EQUIVALENCE	(RC0,RC(1))	SCNTRL 203
00188		REAL	RC0, RC(200)	SCNTRL 204
	C	INTEGER MODEL CONSTANTS		
	C	SCNTRL 212		
		SCNTRL 213		

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C =====
00189 COMMON /IDPARM/ IJUMP (46)
00190 COMMON /IDPARM/ IDSP02
00191 COMMON /IDPARM/ INDEX (72)
00192 COMMON /IDPARM/ I-OD
00193 COMMON /IDPARM/ JC (46)
00194 COMMON /IDPARM/ JE (2)
00195 COMMON /IDPARM/ JP (2.2)
00196 COMMON /IDPARM/ KSTEP
00197 COMMON /IDPARM/ MJ (46)
00198 COMMON /IDPARM/ NHMS1
00199 COMMON /IDPARM/ NYMD1

C
C LOGICAL MODEL CONSTANTS
C =====
00200 COMMON /LDPARM/ FILTER (46)
00201 COMMON /LDPARM/ ITAPE
00202 COMMON /LDPARM/ START

C
00203 LOGICAL FILTER
00204 LOGICAL ITAPE
00205 LOGICAL START

C
C REAL MODEL CONSTANTS
C =====
00206 COMMON /RDPARM/ ADLDP
00207 COMMON /RDPARM/ CON1
00208 COMMON /RDPARM/ CON1DT
00209 COMMON /RDPARM/ CON2
00210 COMMON /RDPARM/ CON2DT
00211 COMMON /RDPARM/ CON3
00212 COMMON /RDPARM/ CON3DT
00213 COMMON /RDPARM/ CON4
00214 COMMON /RDPARM/ CON4DT
00215 COMMON /RDPARM/ CON5
00216 COMMON /RDPARM/ COSL (46)
00217 COMMON /RDPARM/ COSLON (72)
00218 COMMON /RDPARM/ CPD2
00219 COMMON /RDPARM/ DXP (46)
00220 COMMON /RDPARM/ DXYP (46)
00221 COMMON /RDPARM/ DYP (46)
00222 COMMON /RDPARM/ FCORLS (46)
00223 COMMON /RDPARM/ F1DT
00224 COMMON /RDPARM/ F2DT
00225 COMMON /RDPARM/ H1DT
00226 COMMON /RDPARM/ H2DT
00227 COMMON /RDPARM/ PKSTD
00228 COMMON /RDPARM/ PKTOP
00229 COMMON /RDPARM/ RLAT (46)
00230 COMMON /RDPARM/ RLATD (46)
00231 COMMON /RDPARM/ ROCPDT
00232 COMMON /RDPARM/ ROCPPI
00233 COMMON /RDPARM/ SGNP (2)
00234 COMMON /RDPARM/ SINL (46)
00235 COMMON /RDPARM/ SINLON (72)
00236 COMMON /RDPARM/ THSTD
00237 COMMON /RDPARM/ THSTD2
00238 COMMON /RDPARM/ WSAVE (159)
00239 COMMON /RDPARM/ DSIG (9)
00240 COMMON /RDPARM/ SIG (9)

C
C * * *
C GLOBAL MODEL SURFACE FIELDS
00241 COMMON /QANDQT/ QS(72,19,46)

C
00242 DIMENSION PHIS(1368,1)
00243 DIMENSION SMTH(1368,23)
00244 DIMENSION ALBEDO(1368,1)
00245 DIMENSION GT(1368,1)
00246 DIMENSION CW(1368,1)
00247 DIMENSION TS(1368,1)

SCNTRL 214
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SQANDQT 6
SQANDQT 7
SQANDQT 8
SQANDQT 9
SQANDQT 10
SQANDQT 11

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00248	DIMENSION	SHS(1368,1)	SOANDQT 12
00249	DIMENSION	P(72,19,1)	SOANDQT 13
00250	DIMENSION	TMIN(1368,1)	SOANDQT 14
00251	DIMENSION	TMAX(1368,1)	SOANDQT 15
00252	DIMENSION	PREACC(1368,1)	SOANDQT 16
00253	DIMENSION	PRECON(1368,1)	SOANDQT 17
00254	DIMENSION	HFLUX(1368,1)	SOANDQT 18
00255	DIMENSION	EFLUX(1368,1)	SOANDQT 19
00256	DIMENSION	FUSION(1368,1)	SOANDQT 20
00257	DIMENSION	RADSWG(1368,1)	SOANDQT 21
00258	DIMENSION	RADLWG(1368,1)	SOANDQT 22
00259	DIMENSION	ICLOUD(1368,1)	SOANDQT 23
C			
00260	EQUIVALENCE	(QS(1,1,1),PHIS(1,1))	SOANDQT 24
00261	EQUIVALENCE	(QS(1,2,1),SMTH(1,1))	SOANDQT 25
00262	EQUIVALENCE	(QS(1,3,1),ALBEDO(1,1))	SOANDQT 26
00263	EQUIVALENCE	(QS(1,4,1),GT(1,1))	SOANDQT 27
00264	EQUIVALENCE	(QS(1,5,1),GW(1,1))	SOANDQT 28
00265	EQUIVALENCE	(QS(1,6,1),TS(1,1))	SOANDQT 29
00266	EQUIVALENCE	(QS(1,7,1),SHS(1,1))	SOANDQT 30
00267	EQUIVALENCE	(QS(1,8,1),P(1,1,1))	SOANDQT 31
00268	EQUIVALENCE	(QS(1,10,1),TMIN(1,1))	SOANDQT 32
00269	EQUIVALENCE	(QS(1,11,1),TMAX(1,1))	SOANDQT 33
00270	EQUIVALENCE	(QS(1,12,1),PREACC(1,1))	SOANDQT 34
00271	EQUIVALENCE	(QS(1,13,1),PRECON(1,1))	SOANDQT 35
00272	EQUIVALENCE	(QS(1,14,1),HFLUX(1,1))	SOANDQT 36
00273	EQUIVALENCE	(QS(1,15,1),EFLUX(1,1))	SOANDQT 37
00274	EQUIVALENCE	(QS(1,16,1),FUSION(1,1))	SOANDQT 38
00275	EQUIVALENCE	(QS(1,17,1),RADSWG(1,1))	SOANDQT 39
00276	EQUIVALENCE	(QS(1,18,1),RADLWG(1,1))	SOANDQT 40
00277	EQUIVALENCE	(QS(1,19,1),ICLOUD(1,1))	SOANDQT 41
C			
C * GLOBAL MODEL UPPER-AIR FIELDS			
00278	COMMON /QANDQT/	QU(72,9,14,46)	SOANDQT 42
C			
00279	DIMENSION	U(72,9,14,1)	SOANDQT 43
00280	DIMENSION	V(72,9,14,1)	SOANDQT 44
00281	DIMENSION	T(72,9,14,1)	SOANDQT 45
00282	DIMENSION	SH(72,9,14,1)	SOANDQT 46
00283	DIMENSION	PHI(72,9,14,1)	SOANDQT 47
00284	DIMENSION	OMEGA(72,126,1)	SOANDQT 48
00285	DIMENSION	DIABAT(72,126,1)	SOANDQT 49
00286	DIMENSION	RADSW(72,126,1)	SOANDQT 50
00287	DIMENSION	RADLW(72,126,1)	SOANDQT 51
C			
00288	EQUIVALENCE	(QU(1,1,1,1),U(1,1,1,1))	SOANDQT 52
00289	EQUIVALENCE	(QU(1,1,3,1),V(1,1,1,1))	SOANDQT 53
00290	EQUIVALENCE	(QU(1,1,5,1),T(1,1,1,1))	SOANDQT 54
00291	EQUIVALENCE	(QU(1,1,7,1),SH(1,1,1,1))	SOANDQT 55
00292	EQUIVALENCE	(QU(1,1,9,1),PHI(1,1,1,1))	SOANDQT 56
00293	EQUIVALENCE	(QU(1,1,11,1),OMEGA(1,1,1,1))	SOANDQT 57
00294	EQUIVALENCE	(QU(1,1,12,1),DIABAT(1,1,1,1))	SOANDQT 58
00295	EQUIVALENCE	(QU(1,1,13,1),RADSW(1,1,1,1))	SOANDQT 59
00296	EQUIVALENCE	(QU(1,1,14,1),RADLW(1,1,1,1))	SOANDQT 60
C			
C * PHYSICS PARAMETERS AND CONSTANTS			
00297	COMMON /CNTRLP/	CDFR	SOANDQT 61
00298	COMMON /CNTRLP/	CDXL	SOANDQT 62
00299	COMMON /CNTRLP/	CDXO	SOANDQT 63
00300	COMMON /CNTRLP/	CLH	SOANDQT 64
00301	COMMON /CNTRLP/	COE (9)	SOANDQT 65
00302	COMMON /CNTRLP/	COEF	SOANDQT 66
00303	COMMON /CNTRLP/	COEFS	SCNTRLP 2
00304	COMMON /CNTRLP/	COSROT	SCNTRLP 3
00305	COMMON /CNTRLP/	CPP	SCNTRLP 4
00306	COMMON /CNTRLP/	CTID	SCNTRLP 5
00307	COMMON /CNTRLP/	CUMDAY	SCNTRLP 6
00308	COMMON /CNTRLP/	CUMRAT	SCNTRLP 7
00309	COMMON /CNTRLP/	C10	SCNTRLP 8
00310	COMMON /CNTRLP/	C100	SCNTRLP 9

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00311 COMMON /CNTRLRP/ G40 SCNTRLRP 1
00312 COMMON /CNTRLRP/ DELTA SCNTRLRP 19
00313 COMMON /CNTRLRP/ DTC3 SCNTRLRP 20
00314 COMMON /CNTRLRP/ DTOUT SCNTRLRP 21
00315 COMMON /CNTRLRP/ ED SCNTRLRP 22
00316 COMMON /CNTRLRP/ EDNM SCNTRLRP 23
00317 COMMON /CNTRLRP/ FCOEF SCNTRLRP 24
00318 COMMON /CNTRLRP/ FMU SCNTRLRP 25
00319 COMMON /CNTRLRP/ FWET SCNTRLRP 26
00320 COMMON /CNTRLRP/ GAMFAC SCNTRLRP 27
00321 COMMON /CNTRLRP/ GTOPO SCNTRLRP 28
00322 COMMON /CNTRLRP/ HICE SCNTRLRP 29
00323 COMMON /CNTRLRP/ NDTCS SCNTRLRP 30
00324 COMMON /CNTRLRP/ NFLW SCNTRLRP 31
00325 COMMON /CNTRLRP/ PIM SCNTRLRP 32
00326 COMMON /CNTRLRP/ QHOG SCNTRLRP 33
00327 COMMON /CNTRLRP/ SHLTOP SCNTRLRP 34
00328 COMMON /CNTRLRP/ SINROT SCNTRLRP 35
00329 COMMON /CNTRLRP/ SNOWN SCNTRLRP 36
00330 COMMON /CNTRLRP/ SNOWS SCNTRLRP 37
00331 COMMON /CNTRLRP/ STBO SCNTRLRP 38
00332 COMMON /CNTRLRP/ STERP1 SCNTRLRP 39
00333 COMMON /CNTRLRP/ STERP2 SCNTRLRP 40
00334 COMMON /CNTRLRP/ TICE SCNTRLRP 41
00335 COMMON /CNTRLRP/ TLTOP SCNTRLRP 42
00336 COMMON /CNTRLRP/ KDAY SCNTRLRP 43
00337 COMMON /CNTRLRP/ ZLNCO SCNTRLRP 44
00338 LOGICAL QHOG SCNTRLRP 45
C SCNTRLRP 46
C * * * SRADCOM 2
C RADIATION AND SOURCE TERM FIELDS SRADCOM 3
00339 COMMON /RADCOM/ AS(72,9), RE(72,10) SRADCOM 4
00340 COMMON /RADCOM/ PL(72,9), PLE(72,10) SRADCOM 5
00341 COMMON /RADCOM/ PLK(72,9), PLKE(10) SRADCOM 6
00342 COMMON /RADCOM/ TL(72,9), TLE(72,10) SRADCOM 7
00343 COMMON /RADCOM/ TG(72), TH(72,9) SRADCOM 8
00344 COMMON /RADCOM/ SHL(72,9), SHLE(72,10) SRADCOM 9
00345 COMMON /RADCOM/ SHG(72), CLOUD(72,12) SRADCOM 10
00346 COMMON /RADCOM/ SHSAT(72,9), GAM(72,9) SRADCOM 11
00347 COMMON /RADCOM/ RH(72,9) SRADCOM 12
00348 COMMON /RADCOM/ SSS(72,9), SSSE(72,10) SRADCOM 13
00349 COMMON /RADCOM/ HH(72,9), HHE(72,10) SRADCOM 14
00350 COMMON /RADCOM/ HHS(72,9) SRADCOM 15
00351 COMMON /RADCOM/ CVT(72,9), CVQ(72,9) SRADCOM 16
00352 COMMON /RADCOM/ CXDE(9) SRADCOM 17
00353 COMMON /RADCOM/ SWALE(72,10), SWIL(72,9) SRADCOM 18
00354 COMMON /RADCOM/ AL(72,10) SRADCOM 19
00355 COMMON /RADCOM/ TAUL(72,10), OZALE(72,10) SRADCOM 20
00356 COMMON /RADCOM/ TOPABS(72) SRADCOM 21
00357 COMMON /RADCOM/ RN(9), TN(9), SRS(9), STN(9) SRADCOM 22
00358 COMMON /RADCOM/ TCOND(9), TPENE(9) SRADCOM 23
00359 COMMON /RADCOM/ TLOWL, TMIDL, NLAYOZ SRADCOM 24
00360 COMMON /RADCOM/ FK(5), XK(5), NFK SRADCOM 25
00361 COMMON /RADCOM/ OLJAN(19), OLAPR(19), OLJUL(19), OLOCT(19) SRADCOM 26
00362 COMMON /RADCOM/ OCM22(23), OCM30(23), OCM38(23), OCM46(23) SRADCOM 27
00363 COMMON /RADCOM/ PROCN(23), OCMXX(23), NOZ, TOTDZ(4), CDATE(5) SRADCOM 28
00364 COMMON /RADCOM/ CZH(72), WET(72), EVAP, PREP(72), WI(72) SRADCOM 29
00365 COMMON /RADCOM/ COSZ(72), SO, RADTRM(72), CXL SRADCOM 30
00366 COMMON /RADCOM/ SG(72), SP(72) SRADCOM 31
00367 COMMON /RADCOM/ RSURF(72), RCLDUD(72), JALB SRADCOM 32
00368 COMMON /RADCOM/ LAND(72), OCEAN(72), ICE(72) SRADCOM 33
00369 COMMON /RADCOM/ SNOW(72), MIXWI(72), FROST(72) SRADCOM 34
00370 LOGICAL LAND, OCEAN, ICE, SNOW, MIXWI, FROST SRADCOM 35
C SRADCOM 36
C * * * SCOMP35 7
C DEBEG SBEGDEB 2
00371 10000 CONTINUE SBEGDEB 3
C * * * CYBER SCALAR VERSION 04.001 INPUT.100 SBEGDEB 4
C * * * CYBER SCALAR VERSION 04.000 SBEGDEB 5
C * * * CYBER SCALAR VERSION 00 SBEGDEB 6
C ***** SBEGDEB 6

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00372 C      DO 810 I=1,IM
00373 C
00374       IF(TGR.LT.TICE)          GO TO 200
00375       IF( .NOT. (ICE(I) .OR. SNOW(I)) ) GO TO 100
00376
00377               GO TO 300
00378 C      100 IF(.NOT.FROST(I))          GO TO 300
00379
00380       CZFAC= (.331+.075*WET(I))*(1.+1.25*WET(I))
00381       S      /((.386+.150*WET(I))*(1.+1.25*WET(I)))
00382       CZFAC=SQRT(CZFAC)
00383 C      GT(I,J)=TICE+CZFAC*(TGR-TICE)
00384               GO TO 300
00385 C      200 IF(TG(I).LE.TICE)          GO TO 300
00386
00387       CZFAC=(.386+.150*WET(I))*(1.+1.25*WET(I))
00388       S      /((.331+.075*WET(I))*(1.+1.25*WET(I)))
00389       CZFAC=SQRT(CZFAC)
00390 C      GT(I,J)=TICE+CZFAC*(TGR-TICE)
00391
00392       300 CONTINUE
00393 C      IF(J.NE.1 .AND. J.NE.JNP) GO TO 810
00394
00395       DO 814 II=1,IM
00396       GW(II,J) = GW(II,J)
00397       GT(II,J) = GT(II,J)
00398       814 CONTINUE
00399 C      810 CONTINUE
00400       RETURN
00401       END

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SCOMP35 9
SCOMP35 10
SCOMP35 11
SCOMP35 12
SCOMP35 13
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SCOMP35 38
SCOMP35 39
SCOMP35 40
SCOMP35 41
SCOMP35 42
SCOMP35 43
SCOMP35 44
SCOMP35 45

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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

100	378	375			
10000	371				
200	384	374			
300	388	377	378	383	384
810	394	372	389		
814	393	390			

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES	A	C	I	R	S	W
ADATE	CCNTRL	CHAR*8	SIMPLE	3	16					
ADLDP	RDPARM	REAL	SIMPLE	206						
AL	RADCOM	REAL	ARRAY	354						
ALBEDO	QANDQT	REAL	ARRAY	244	262					
APHEL	RCNTRL	REAL	SIMPLE	146						
AS	RADCOM	REAL	ARRAY	339						
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17					
BETA	RCNTRL	REAL	SIMPLE	147						
C10	CNTRLP	REAL	SIMPLE	309						
C100	CNTRLP	REAL	SIMPLE	310						
C40	CNTRLP	REAL	SIMPLE	311						
CALTDJ	RCNTRL	REAL	SIMPLE	185						
CC	CCNTRL	CHAR*8	ARRAY	14	15					
CCO	CCNTRL	CHAR*8	SIMPLE	2	14					
CCNTRL		REAL	UNKNOWN	2	3	15	4	5	6	7
				13						8
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20					9
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21					10
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22					11
CDATE	RADCOM	REAL	ARRAY	363						12

CDFR	CNTRLP	REAL	SIMPLE	297																
CDXL	CNTRLP	REAL	SIMPLE	298																
CDXO	CNTRLP	REAL	SIMPLE	299																
CLH	CNTRLP	REAL	SIMPLE	300																
CLOUD	RADCOM	REAL	ARRAY	345																
CNTRLP		REAL	UNKNOWN	297	298	299	300	301	302	303	304	305	306	307						
				308	309	310	311	312	313	314	315	316	317	318						
				319	320	321	322	323	324	325	326	327	328	329						
				330	331	332	333	334	335	336	337									
COE	CNTRLP	REAL	ARRAY	301																
COEF	CNTRLP	REAL	SIMPLE	302																
COEFS	CNTRLP	REAL	SIMPLE	303																
COMP35			SUBROUTINE	1																
CON1	RDPARM	REAL	SIMPLE	207																
CON1DT	RDPARM	REAL	SIMPLE	208																
CON2	RDPARM	REAL	SIMPLE	209																
CON2DT	RDPARM	REAL	SIMPLE	210																
CON3	RDPARM	REAL	SIMPLE	211																
CON3DT	RDPARM	REAL	SIMPLE	212																
CON4	RDPARM	REAL	SIMPLE	213																
CON4DT	RDPARM	REAL	SIMPLE	214																
CON5	RDPARM	REAL	SIMPLE	215																
COSD	RCNTRL	REAL	SIMPLE	148																
COSL	RDPARM	REAL	ARRAY	216																
COSLON	RDPARM	REAL	ARRAY	217																
COSROT	CNTRLP	REAL	SIMPLE	304																
COSZ	RADCOM	REAL	ARRAY	365																
CP	RCNTRL	REAL	SIMPLE	149																
CPD2	RDPARM	REAL	SIMPLE	218																
CPP	CNTRLP	REAL	SIMPLE	305																
CQS	CCNTRL	REAL	ARRAY	12																
CQU	CCNTRL	REAL	ARRAY	13																
CTID	CNTRLP	REAL	SIMPLE	306																
CUMDAY	CNTRLP	REAL	SIMPLE	307																
CUMRAT	CNTRLP	REAL	SIMPLE	308																
CVQ	RADCOM	REAL	ARRAY	351																
CVT	RADCOM	REAL	ARRAY	351																
CXDE	RADCOM	REAL	ARRAY	352																
CKL	RADCOM	REAL	SIMPLE	365																
CZFAC		REAL	SIMPLE	380/S	381/S	381	382	385/S	386/S	386	387									
CZH	RADCOM	REAL	ARRAY	364																
DAYSPLY	RCNTRL	REAL	SIMPLE	150																
DEC	RCNTRL	REAL	SIMPLE	151																
DECMAX	RCNTRL	REAL	SIMPLE	152																
DELTA	CNTRLP	REAL	SIMPLE	312																
DIABAT	QANDQT	REAL	ARRAY	285	294															
DIST	RCNTRL	REAL	SIMPLE	153																
DLAT	RCNTRL	REAL	SIMPLE	154																
DLON	RCNTRL	REAL	SIMPLE	155																
DSIG	RDPARM	REAL	ARRAY	239																
DT	RCNTRL	REAL	SIMPLE	156																
DTC3	CNTRLP	REAL	SIMPLE	313																
DTOUT	CNTRLP	REAL	SIMPLE	314																
DXP	RDPARM	REAL	ARRAY	219																
DXYP	RDPARM	REAL	ARRAY	220																
DYP	RDPARM	REAL	ARRAY	221																
ECCN	RCNTRL	REAL	SIMPLE	157																
ED	CNTRLP	REAL	SIMPLE	315																
EDNM	CNTRLP	REAL	SIMPLE	316																
EFLUX	QANDQT	REAL	ARRAY	255	273															
EPS	RCNTRL	REAL	SIMPLE	183																
EPSFAC	RCNTRL	REAL	SIMPLE	184																
EVAP	RADCOM	REAL	SIMPLE	364																
F1DT	RDPARM	REAL	SIMPLE	223																
F2DT	RDPARM	REAL	SIMPLE	224																
FCOEF	CNTRLP	REAL	SIMPLE	317																
FCORLS	RDPARM	REAL	ARRAY	222																
FILTER	LDPARM	LOGICAL	ARRAY	200	203															
FK	RADCOM	REAL	ARRAY	360																
FMU	CNTRLP	REAL	SIMPLE	318																

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JP	IDPARM	INTEGER	ARRAY	195																
JSP	ICNTRL	INTEGER	SIMPLE	36																
KLIALB	ICNTRL	INTEGER	SIMPLE	37																
KLIGW	ICNTRL	INTEGER	SIMPLE	38																
KLISST	ICNTRL	INTEGER	SIMPLE	39																
KS	ICNTRL	INTEGER	SIMPLE	40																
KSTEP	IDPARM	INTEGER	SIMPLE	196																
KU	ICNTRL	INTEGER	SIMPLE	41																
LAND	RADCOM	LOGICAL	ARRAY	368	370															
LC	ICNTRL	LOGICAL	ARRAY	143	144															
LCO	ICNTRL	LOGICAL	SIMPLE	92	143	144														
LCNTRL		INTEGER	UNKNOWN	92	93	94	95	96	97	98	99	100	101	102						
				103	104															
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	116	141															
LDPARM		INTEGER	UNKNOWN	200	201	202														
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	110	135															
LFUSION	LCNTRL	LOGICAL	UNKNOWN	111	136															
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	109	134															
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	139															
LOG8R	ICNTRL	INTEGER	SIMPLE	42																
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	115	140															
LPREACC	LCNTRL	LOGICAL	UNKNOWN	107	132															
LPREOON	LCNTRL	LOGICAL	UNKNOWN	108	133															
LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114						
				128																
LQU	LCNTRL	LOGICAL	ARRAY	104	115	116	117	129												
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138															
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	142															
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	112	137															
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131															
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130															
MATIN	ICNTRL	INTEGER	SIMPLE	43																
MATSNX	ICNTRL	INTEGER	SIMPLE	44																
MATSUN	ICNTRL	INTEGER	SIMPLE	45																
MI XWI	RADCOM	LOGICAL	ARRAY	369	370															
MJ	IDPARM	INTEGER	ARRAY	197																
MLF	ICNTRL	INTEGER	ARRAY	46																
MROD	ICNTRL	INTEGER	SIMPLE	47																
MSM	ICNTRL	INTEGER	SIMPLE	49																
NB	ICNTRL	INTEGER	SIMPLE	50																
ND	ICNTRL	INTEGER	SIMPLE	51																
NDALT	ICNTRL	INTEGER	SIMPLE	52																
NDAY	ICNTRL	INTEGER	SIMPLE	53																
NDHOG	ICNTRL	INTEGER	SIMPLE	74																
NDOUT	ICNTRL	INTEGER	SIMPLE	54																
NDPHY	ICNTRL	INTEGER	SIMPLE	55																
NDRSW	ICNTRL	INTEGER	SIMPLE	29																
NDSHF	ICNTRL	INTEGER	SIMPLE	56																
NDT	ICNTRL	INTEGER	SIMPLE	57																
NDTC3	ICNTRL	INTEGER	SIMPLE	323																
NFK	RADCOM	INTEGER	SIMPLE	360																
NFLW	ICNTRL	INTEGER	SIMPLE	324																
NHMS	ICNTRL	INTEGER	SIMPLE	58																
NHMSO	ICNTRL	INTEGER	SIMPLE	60																
NHMS1	IDPARM	INTEGER	SIMPLE	198																
NHMS2	ICNTRL	INTEGER	SIMPLE	59																
NKRSH	ICNTRL	INTEGER	SIMPLE	48																
NLAY	ICNTRL	INTEGER	SIMPLE	61																
NLAYM1	ICNTRL	INTEGER	SIMPLE	62																
NLAYOZ	RADCOM	INTEGER	SIMPLE	359																
NLAYP1	ICNTRL	INTEGER	SIMPLE	63																
NMLEV	ICNTRL	INTEGER	SIMPLE	73																
NOZ	RADCOM	INTEGER	SIMPLE	363																
NSDAY	ICNTRL	INTEGER	SIMPLE	64																
NSEQ	ICNTRL	INTEGER	SIMPLE	65																
NSTEP	ICNTRL	INTEGER	SIMPLE	67																
NYMD	ICNTRL	INTEGER	SIMPLE	69																
NYMD0	ICNTRL	INTEGER	SIMPLE	71																
NYMD1	IDPARM	INTEGER	SIMPLE	199																

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				217	218	219	220	221	222	223	224	225	226	227
				228	229	230	231	232	233	234	235	236	237	238
				239	240									
RE	RADCOM	REAL	ARRAY	339										
RGAS	RCNTRL	REAL	SIMPLE	171										
RH	RADCOM	REAL	ARRAY	347										
RLAT	RDPAARM	REAL	ARRAY	229										
RLATO	RDPAARM	REAL	ARRAY	230										
RN	RADCOM	REAL	ARRAY	357										
ROCP	RCNTRL	REAL	SIMPLE	172										
ROCPDT	RDPAARM	REAL	SIMPLE	231										
ROCFP1	RDPAARM	REAL	SIMPLE	232										
RSDIST	RCNTRL	REAL	SIMPLE	173										
RSURF	RADCOM	REAL	ARRAY	367										
SO	RADCOM	REAL	SIMPLE	365										
SDAY	RCNTRL	REAL	SIMPLE	174										
SEASON	RCNTRL	REAL	SIMPLE	175										
SG	RADCOM	REAL	ARRAY	366										
SGNP	RDPAARM	REAL	ARRAY	233										
SH	QANDQT	REAL	ARRAY	282	291									
SHG	RADCOM	REAL	ARRAY	345										
SHL	RADCOM	REAL	ARRAY	344										
SHLE	RADCOM	REAL	ARRAY	344										
SHLTOP	CNTRLP	REAL	SIMPLE	327										
SHS	QANDQT	REAL	ARRAY	248	266									
SHSAT	RADCOM	REAL	ARRAY	346										
SIG	RDPAARM	REAL	ARRAY	240										
SIGE	RCNTRL	REAL	ARRAY	176										
SIND	RCNTRL	REAL	SIMPLE	177										
SINL	RDPAARM	REAL	ARRAY	234										
SINLON	RDPAARM	REAL	ARRAY	235										
SINROT	CNTRLP	REAL	SIMPLE	328										
SMTH	QANDQT	REAL	ARRAY	243	261									
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125									
SNOW	RADCOM	LOGICAL	ARRAY	369	370	375								
SNOWN	CNTRLP	REAL	SIMPLE	329										
SNOWS	CNTRLP	REAL	SIMPLE	330										
SOLS	RCNTRL	REAL	SIMPLE	178										
SP	RADCOM	REAL	ARRAY	366										
SRS	RADCOM	REAL	ARRAY	357										
SSS	RADCOM	REAL	ARRAY	348										
SSSE	RADCOM	REAL	ARRAY	348										
START	LDPAARM	LOGICAL	SIMPLE	202	205									
STBO	CNTRLP	REAL	SIMPLE	331										
STERP1	CNTRLP	REAL	SIMPLE	332										
STERP2	CNTRLP	REAL	SIMPLE	333										
STN	RADCOM	REAL	ARRAY	357										
SWALE	RADCOM	REAL	ARRAY	353										
SWIL	RADCOM	REAL	ARRAY	353										
T	QANDQT	REAL	ARRAY	281	290									
TAUL	RADCOM	REAL	ARRAY	355										
TCOND	RADCOM	REAL	ARRAY	358										
TG	RADCOM	REAL	ARRAY	343	384									
TGR	REAL	SIMPLE	373/S	374	382	387								
TH	RADCOM	REAL	ARRAY	343										
THSTD	RDPAARM	REAL	SIMPLE	236										
THSTD2	RDPAARM	REAL	SIMPLE	237										
TICE	CNTRLP	REAL	SIMPLE	334	374	376	382	382	384	387	387			
TL	RADCOM	REAL	ARRAY	342										
TLE	RADCOM	REAL	ARRAY	342										
TLOWL	RADCOM	REAL	SIMPLE	359										
TLTOP	CNTRLP	REAL	SIMPLE	335										
TMAX	QANDQT	REAL	ARRAY	251	269									
TMIDL	RADCOM	REAL	SIMPLE	359										
TMIN	QANDQT	REAL	ARRAY	250	268									
TN	RADCOM	REAL	ARRAY	357										
TOPABS	RADCOM	REAL	ARRAY	356										
TOTOZ	RADCOM	REAL	ARRAY	363										
TPENE	RADCOM	REAL	ARRAY	358										
TS	QANDQT	REAL	ARRAY	247	265									

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TSTD	RCNTRL	REAL	SIMPLE	179								
U	QANDQT	REAL	ARRAY	279	288							
V	QANDQT	REAL	ARRAY	280	289							
VER	CCNTRL	CHAR*8	SIMPLE	10	23							
WET	RADCOM	REAL	ARRAY	364	380	380	380	380	385	385	385	385
WI	RADCOM	REAL	ARRAY	364								
WSAVE	WDPRM	REAL	ARRAY	238								
XDAY	CNTRL	REAL	SIMPLE	336								
XK	RADCOM	REAL	ARRAY	360								
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24							
ZLNCO	CNTRL	REAL	SIMPLE	337								

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT FN DEF, A=ARGLIST
SQRT	REAL	INTRINSIC	381 386	

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00001      SUBROUTINE CONHTR
C      *
C      *      CONVERSION TO HISTORY (V8SIG) FORMAT AND WRITE TO UNIT 08
C      *
C      *      CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C      *      =====
00002      COMMON /CCNTRL/ CC0
00003      COMMON /CCNTRL/ ADATE
00004      COMMON /CCNTRL/ ATIME
00005      COMMON /CCNTRL/ JIC
00006      COMMON /CCNTRL/ JOB
00007      COMMON /CCNTRL/ CCSP06
00008      COMMON /CCNTRL/ CCSP07
00009      COMMON /CCNTRL/ CCSP08
00010      COMMON /CCNTRL/ VER
00011      COMMON /CCNTRL/ XLABEL (10)
00012      COMMON /CCNTRL/ CQS (30)
00013      COMMON /CCNTRL/ CQU (10)
C
00014      EQUIVALENCE      (CC0,CC(1))
00015      CHARACTER*8      CC0, CC(200)
00016      CHARACTER*8      ADATE
00017      CHARACTER*8      ATIME
00018      CHARACTER*8      JIC
00019      CHARACTER*8      JOB
00020      CHARACTER*8      CCSP06
00021      CHARACTER*8      CCSP07
00022      CHARACTER*8      CCSP08
00023      CHARACTER*8      VER
00024      CHARACTER*8      XLABEL
C
C      *      INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C      *      =====
00025      COMMON /ICNTRL/ IC0
00026      COMMON /ICNTRL/ IM
00027      COMMON /ICNTRL/ IMD2
00028      COMMON /ICNTRL/ IMD2P1
00029      COMMON /ICNTRL/ NDRSW
00030      COMMON /ICNTRL/ JM
00031      COMMON /ICNTRL/ JMD2
00032      COMMON /ICNTRL/ JMT2
00033      COMMON /ICNTRL/ JNP
00034      COMMON /ICNTRL/ JO4
00035      COMMON /ICNTRL/ JOB
00036      COMMON /ICNTRL/ JSP
00037      COMMON /ICNTRL/ KLIALB
00038      COMMON /ICNTRL/ KLIW
00039      COMMON /ICNTRL/ KLISST
00040      COMMON /ICNTRL/ KS
00041      COMMON /ICNTRL/ KU
00042      COMMON /ICNTRL/ LOGBR
00043      COMMON /ICNTRL/ MATIN
00044      COMMON /ICNTRL/ MATSNX
00045      COMMON /ICNTRL/ MATSUN
00046      COMMON /ICNTRL/ MLF      (12)
00047      COMMON /ICNTRL/ MROD
00048      COMMON /ICNTRL/ NKRSR
00049      COMMON /ICNTRL/ MSM
00050      COMMON /ICNTRL/ NB
00051      COMMON /ICNTRL/ ND
00052      COMMON /ICNTRL/ NDALT
00053      COMMON /ICNTRL/ NDAY
00054      COMMON /ICNTRL/ NDOUT
00055      COMMON /ICNTRL/ NDPHY
00056      COMMON /ICNTRL/ NDSHF
00057      COMMON /ICNTRL/ NDT
00058      COMMON /ICNTRL/ NHMS
00059      COMMON /ICNTRL/ NHMSE
00060      COMMON /ICNTRL/ NHMSO
00061      COMMON /ICNTRL/ NLAY
00062      COMMON /ICNTRL/ NLAYM1

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00063	COMMON /ICNTRL/ NLAYP1	SCNTRL 70
00064	COMMON /ICNTRL/ NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
C		SCNTRL 84
00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 85
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 86
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 87
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 88
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 89
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 91
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 92
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 93
00086	EQUIVALENCE (IICLOUD ,IQS(10))	SCNTRL 94
C		SCNTRL 95
00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 96
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 97
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 98
C		SCNTRL 99
00090	EQUIVALENCE (IC0,IC(1))	SCNTRL 100
00091	INTEGER IC0, IC(200)	SCNTRL 101
C		SCNTRL 102
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL 103
C	=====	SCNTRL 104
00092	COMMON /LCNTRL/ LCO	SCNTRL 105
00093	COMMON /LCNTRL/ QALT	SCNTRL 106
00094	COMMON /LCNTRL/ QBEG	SCNTRL 107
00095	COMMON /LCNTRL/ QDAY	SCNTRL 108
00096	COMMON /LCNTRL/ QEND	SCNTRL 109
00097	COMMON /LCNTRL/ QOUT	SCNTRL 110
00098	COMMON /LCNTRL/ QPHY	SCNTRL 111
00099	COMMON /LCNTRL/ QSHF	SCNTRL 112
00100	COMMON /LCNTRL/ SN2FLG	SCNTRL 113
00101	COMMON /LCNTRL/ QRSW	SCNTRL 114
00102	COMMON /LCNTRL/ QRSH	SCNTRL 115
00103	COMMON /LCNTRL/ LQS(30)	SCNTRL 116
00104	COMMON /LCNTRL/ LQU(10)	SCNTRL 117
C		SCNTRL 118
00105	EQUIVALENCE (LTMIN ,LQS(1))	SCNTRL 119
00106	EQUIVALENCE (LTMAX ,LQS(2))	SCNTRL 120
00107	EQUIVALENCE (LPREACC ,LQS(3))	SCNTRL 121
00108	EQUIVALENCE (LPRECON ,LQS(4))	SCNTRL 122
00109	EQUIVALENCE (LHFLUX ,LQS(5))	SCNTRL 123
00110	EQUIVALENCE (LEFLUX ,LQS(6))	SCNTRL 124
00111	EQUIVALENCE (LFUSION ,LQS(7))	SCNTRL 125
00112	EQUIVALENCE (LRADSWG ,LQS(8))	SCNTRL 126
00113	EQUIVALENCE (LRADLWG ,LQS(9))	SCNTRL 127
00114	EQUIVALENCE (LICLOUD ,LQS(10))	SCNTRL 128
C		SCNTRL 129
00115	EQUIVALENCE (LOMEGA ,LQU(1))	SCNTRL 130
00116	EQUIVALENCE (LDIABAT ,LQU(2))	SCNTRL 131
00117	EQUIVALENCE (LRADSW ,LQU(3))	SCNTRL 132
C		SCNTRL 133
00118	LOGICAL QALT	SCNTRL 134
00119	LOGICAL QBEG	SCNTRL 135
00120	LOGICAL QDAY	SCNTRL 136
00121	LOGICAL QEND	SCNTRL 137
00122	LOGICAL QOUT	SCNTRL 138
00123	LOGICAL QPHY	SCNTRL 139
00124	LOGICAL QSHF	SCNTRL 140

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00125 LOGICAL SN2FLG
00126 LOGICAL QRSW
00127 LOGICAL QRSN

C
00128 LOGICAL LQS
00129 LOGICAL LQU
00130 LOGICAL LTMIN
00131 LOGICAL LTMAX
00132 LOGICAL LPREACC
00133 LOGICAL LPRECON
00134 LOGICAL LHFLUX
00135 LOGICAL LEFLUX
00136 LOGICAL LFUSION
00137 LOGICAL LRADSWG
00138 LOGICAL LRADLWG
00139 LOGICAL LICLOUD

C
00140 LOGICAL LOMEGA
00141 LOGICAL LDIABAT
00142 LOGICAL LRADSW

C
00143 EQUIVALENCE (LC0,LC(1))
00144 LOGICAL LC0, LC(200)

C
C REAL MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00145 COMMON /RCNTRL/ RCO
00146 COMMON /RCNTRL/ APHEL
00147 COMMON /RCNTRL/ BETA
00148 COMMON /RCNTRL/ COSD
00149 COMMON /RCNTRL/ CP
00150 COMMON /RCNTRL/ DAYSPY
00151 COMMON /RCNTRL/ DEC
00152 COMMON /RCNTRL/ DECMAK
00153 COMMON /RCNTRL/ DIST
00154 COMMON /RCNTRL/ DLAT
00155 COMMON /RCNTRL/ DLON
00156 COMMON /RCNTRL/ DT
00157 COMMON /RCNTRL/ ECCN
00158 COMMON /RCNTRL/ GNU1
00159 COMMON /RCNTRL/ GNU2
00160 COMMON /RCNTRL/ GRAV
00161 COMMON /RCNTRL/ OMEGA2
00162 COMMON /RCNTRL/ PI
00163 COMMON /RCNTRL/ PI180
00164 COMMON /RCNTRL/ PI2
00165 COMMON /RCNTRL/ PSTD
00166 COMMON /RCNTRL/ PIMEAN
00167 COMMON /RCNTRL/ PSMAK
00168 COMMON /RCNTRL/ PSMIN
00169 COMMON /RCNTRL/ PTOP
00170 COMMON /RCNTRL/ RADE
00171 COMMON /RCNTRL/ RGAS
00172 COMMON /RCNTRL/ ROOP
00173 COMMON /RCNTRL/ RSDIST
00174 COMMON /RCNTRL/ SDAY
00175 COMMON /RCNTRL/ SEASON
00176 COMMON /RCNTRL/ SIGE (25)
00177 COMMON /RCNTRL/ SIND
00178 COMMON /RCNTRL/ SOLS
00179 COMMON /RCNTRL/ TSTD
00180 COMMON /RCNTRL/ PLEVS (25)
00181 COMMON /RCNTRL/ HEATW
00182 COMMON /RCNTRL/ HEATI
00183 COMMON /RCNTRL/ EPS
00184 COMMON /RCNTRL/ EPSFAC
00185 COMMON /RCNTRL/ CALTOJ
00186 COMMON /RCNTRL/ PZERO

C
00187 EQUIVALENCE (RC0,RC(1))
00188 REAL RC0, RC(200)
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C
C INTEGER MODEL CONSTANTS
C =====
00189 COMMON /IDPARM/ IJUMP (46)
00190 COMMON /IDPARM/ IDSP02
00191 COMMON /IDPARM/ INDEX (72)
00192 COMMON /IDPARM/ IROD
00193 COMMON /IDPARM/ JC (46)
00194 COMMON /IDPARM/ JE (2)
00195 COMMON /IDPARM/ JP (2,2)
00196 COMMON /IDPARM/ KSTEP
00197 COMMON /IDPARM/ MJ (46)
00198 COMMON /IDPARM/ NHMS1
00199 COMMON /IDPARM/ NYMD1

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C
C LOGICAL MODEL CONSTANTS
C =====
00200 COMMON /LDPARM/ FILTER (46)
00201 COMMON /LDPARM/ ITAPE
00202 COMMON /LDPARM/ START

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C
C LOGICAL FILTER
00203 LOGICAL FILTER
00204 LOGICAL ITAPE
00205 LOGICAL START

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C
C REAL MODEL CONSTANTS
C =====
00206 COMMON /RDPARM/ ADLDP
00207 COMMON /RDPARM/ CON1
00208 COMMON /RDPARM/ CON1DT
00209 COMMON /RDPARM/ CON2
00210 COMMON /RDPARM/ CON2DT
00211 COMMON /RDPARM/ CON3
00212 COMMON /RDPARM/ CON3DT
00213 COMMON /RDPARM/ CON4
00214 COMMON /RDPARM/ CON4DT
00215 COMMON /RDPARM/ CON5
00216 COMMON /RDPARM/ COSL (46)
00217 COMMON /RDPARM/ COSLON (72)
00218 COMMON /RDPARM/ CPD2
00219 COMMON /RDPARM/ DXP (46)
00220 COMMON /RDPARM/ DXYP (46)
00221 COMMON /RDPARM/ DYP (46)
00222 COMMON /RDPARM/ FCORLS (46)
00223 COMMON /RDPARM/ F1DT
00224 COMMON /RDPARM/ F2DT
00225 COMMON /RDPARM/ H1DT
00226 COMMON /RDPARM/ H2DT
00227 COMMON /RDPARM/ PKSTD
00228 COMMON /RDPARM/ PKTOP
00229 COMMON /RDPARM/ RLAT (46)
00230 COMMON /RDPARM/ RLATD (46)
00231 COMMON /RDPARM/ ROC PDT
00232 COMMON /RDPARM/ ROC PP1
00233 COMMON /RDPARM/ SGNP (2)
00234 COMMON /RDPARM/ SINL (46)
00235 COMMON /RDPARM/ SINLON (72)
00236 COMMON /RDPARM/ THSTD
00237 COMMON /RDPARM/ THSTD2
00238 COMMON /RDPARM/ WSAVE (159)
00239 COMMON /RDPARM/ DSIG (9)
00240 COMMON /RDPARM/ SIG (9)

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C
C * * *
C GLOBAL MODEL SURFACE FIELDS
00241 COMMON /QANDQT/ QS(72,19,46)
C
00242 DIMENSION PHIS(1368,1)
00243 DIMENSION SMTH(1368,23)
00244 DIMENSION ALBEDO(1368,1)
00245 DIMENSION GT(1368,1)

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SQANDQT 9

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00246	DIMENSION	GW(1368,1)	SQANDQT	10	
00247	DIMENSION	TS(1368,1)	SQANDQT	11	
00248	DIMENSION	SHS(1368,1)	SQANDQT	12	
00249	DIMENSION	P(72,19,1)	SQANDQT	13	
00250	DIMENSION	TMIN(1368,1)	SQANDQT	14	
00251	DIMENSION	TMAX(1368,1)	SQANDQT	15	
00252	DIMENSION	PREACC(1368,1)	SQANDQT	16	
00253	DIMENSION	PRECON(1368,1)	SQANDQT	17	
00254	DIMENSION	HFLUX(1368,1)	SQANDQT	18	
00255	DIMENSION	EFLUX(1368,1)	SQANDQT	19	
00256	DIMENSION	FUSION(1368,1)	SQANDQT	20	
00257	DIMENSION	RADSWG(1368,1)	SQANDQT	21	
00258	DIMENSION	RADLWG(1368,1)	SQANDQT	22	
00259	DIMENSION	ICLOUD(1368,1)	SQANDQT	23	
C					
00260	EQUIVALENCE	{QS(1,1,1),PHIS(1,1)}	SQANDQT	24	
00261	EQUIVALENCE	{QS(1,2,1),SMTH(1,1)}	SQANDQT	25	
00262	EQUIVALENCE	{QS(1,3,1),ALBEDO(1,1)}	SQANDQT	26	
00263	EQUIVALENCE	{QS(1,4,1),GT(1,1)}	SQANDQT	27	
00264	EQUIVALENCE	{QS(1,5,1),GW(1,1)}	SQANDQT	28	
00265	EQUIVALENCE	{QS(1,6,1),TS(1,1)}	SQANDQT	29	
00266	EQUIVALENCE	{QS(1,7,1),SHS(1,1)}	SQANDQT	30	
00267	EQUIVALENCE	{QS(1,8,1),P(1,1,1)}	SQANDQT	31	
00268	EQUIVALENCE	{QS(1,10,1),TMIN(1,1)}	SQANDQT	32	
00269	EQUIVALENCE	{QS(1,11,1),TMAX(1,1)}	SQANDQT	33	
00270	EQUIVALENCE	{QS(1,12,1),PREACC(1,1)}	SQANDQT	34	
00271	EQUIVALENCE	{QS(1,13,1),PRECON(1,1)}	SQANDQT	35	
00272	EQUIVALENCE	{QS(1,14,1),HFLUX(1,1)}	SQANDQT	36	
00273	EQUIVALENCE	{QS(1,15,1),EFLUX(1,1)}	SQANDQT	37	
00274	EQUIVALENCE	{QS(1,16,1),FUSION(1,1)}	SQANDQT	38	
00275	EQUIVALENCE	{QS(1,17,1),RADSWG(1,1)}	SQANDQT	39	
00276	EQUIVALENCE	{QS(1,18,1),RADLWG(1,1)}	SQANDQT	40	
00277	EQUIVALENCE	{QS(1,19,1),ICLOUD(1,1)}	SQANDQT	41	
C					
C * * *					
00278	GLOBAL MODEL UPPER-AIR FIELDS			SQANDQT	42
	COMMON	/QANDQT/ QU(72,9,14,46)	SQANDQT	43	
C					
00279	DIMENSION	U(72,9,14,1)	SQANDQT	44	
00280	DIMENSION	V(72,9,14,1)	SQANDQT	45	
00281	DIMENSION	T(72,9,14,1)	SQANDQT	46	
00282	DIMENSION	SH(72,9,14,1)	SQANDQT	47	
00283	DIMENSION	PHI(72,9,14,1)	SQANDQT	48	
00284	DIMENSION	OMEGA(72,126,1)	SQANDQT	49	
00285	DIMENSION	DIABAT(72,126,1)	SQANDQT	50	
00286	DIMENSION	RADSW(72,126,1)	SQANDQT	51	
00287	DIMENSION	RADLW(72,126,1)	SQANDQT	52	
C					
00288	EQUIVALENCE	{QU(1,1,1,1),U(1,1,1,1)}	SQANDQT	53	
00289	EQUIVALENCE	{QU(1,1,3,1),V(1,1,1,1)}	SQANDQT	54	
00290	EQUIVALENCE	{QU(1,1,5,1),T(1,1,1,1)}	SQANDQT	55	
00291	EQUIVALENCE	{QU(1,1,7,1),SH(1,1,1,1)}	SQANDQT	56	
00292	EQUIVALENCE	{QU(1,1,9,1),PHI(1,1,1,1)}	SQANDQT	57	
00293	EQUIVALENCE	{QU(1,1,11,1),OMEGA(1,1,1,1)}	SQANDQT	58	
00294	EQUIVALENCE	{QU(1,1,12,1),DIABAT(1,1,1,1)}	SQANDQT	59	
00295	EQUIVALENCE	{QU(1,1,13,1),RADSW(1,1,1,1)}	SQANDQT	60	
00296	EQUIVALENCE	{QU(1,1,14,1),RADLW(1,1,1,1)}	SQANDQT	61	
C					
C * * *					
00297	IDENTIFYING LABELS OF MODEL HISTORY RECORD QUANTITIES			SQANDQT	62
00298	COMMON	/CORDER/ XORDS(19), XORDU(14)	SCORDER	2	
00299	CHARACTER	*8 XORDS, XORDU	SCORDER	3	
00300	COMMON	/AMAM/ QSH(72,46,18),QUH(72,9,46,9)	SCORDER	4	
	HALF PRECISION	QSH,QUH	SCORDER	5	
C					
00301	COMMON	CA(200),IA(200),LA(200),RA(200)	SCONHTR	6	
00302	COMMON	XSA(20),XUA(20)	SCONHTR	7	
00303	COMMON	HWORX(72,9,14),QSA(72,19),QUA(72,9,14)	SCONHTR	8	
00304	REAL	CA,XSA,XUA	SCONHTR	9	
00305	HALF PRECISION	IA,LA,RA,HWORX,QSA,QUA	SCONHTR	10	
C					
00306	HALF PRECISION	ITRUE,IFALSE,HIC(2,200),HKSS(2),HKUS(2)	SCONHTR	11	
			SCONHTR	12	
			SCONHTR	13	
			SCONHTR	14	
			SCONHTR	15	
			SCONHTR	16	
			SCONHTR	17	


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00307      EQUIVALENCE      (IC,HIC),(KSS,HKSS),(KUS,HKUS)
00308      CHARACTER*8      IBM,CDC
C
00309      DATA      ITRUE,IFALSE/'X'00000001','X'00000000'/
00310      DATA      CDC,IBM/8HCDC      ,8HIBM      /
C
C 00311      10000 CONTINUE
C      ***** CYBER SCALAR VERSION 04.001 INPUT,IOQ
C      ***** CYBER SCALAR VERSION 04.000
C      ***** CYBER SCALAR VERSION 00
C *****
C *****
C      CONVERT THE HEADER
C      CC(1) = IBM
00312      CALL ATOE(CC,CA,200*8)
00313      CC(1) = CDC
00314      CALL ATOE(XORDS,XSA,KS*8)
00315      CALL ATOE(XORDU,XUA,KU*8)
00316      DO 9 K = 1,200
00317      9 HWORK(K) = RC(K)
00318      CALL Q9CI32(HWORK,RA,200,IERR)
00319      IF(IERR.NE.0) WRITE(3,900) IERR
00320      900 FORMAT('Q9CI32 IERR = ',I2)
00321      DO 10 K = 1,200
00322      10 IA(K) = HIC(2,K)
00323      LA(K) = IFALSE
00324      IF(LC(K)) LA(K) = ITRUE
00325      10 CONTINUE
00326      C
C      FIX KS AND KU FOR HISTORY AND WRITE THE HEADER
00327      KSS = 0
00328      DO 15 K = 1,KS
00329      IF((K.EQ.9).AND.(NB.EQ.1)) GO TO 15
00330      IF((K.EQ.8).AND.(NB.EQ.2)) GO TO 15
00331      KSS = KSS + 1
00332      XSA(KSS) = XSA(K)
00333      15 CONTINUE
00334      KUS = 0
00335      DO 20 K = 1,KU
00336      IF((K.LE.10).AND.(MOD(K,2).EQ.0).AND.(NB.EQ.1)) GO TO 20
00337      IF((K.LE.10).AND.(MOD(K,2).EQ.1).AND.(NB.EQ.2)) GO TO 20
00338      KUS = KUS + 1
00339      XUA(KUS) = XUA(K)
00340      20 CONTINUE
00341      IA(16) = HKSS(2)
00342      IA(17) = HKUS(2)
00343      LA(1) = IFALSE
00344      IF(QRSH) LA(1) = ITRUE
00345      WRITE(8) CA,IA,LA,RA,(XSA(K),K=1,KSS),(XUA(K),K=1,KUS)
C
C      START LOOP FOR THE LATITUDE BANDS
00346      KNTQS = IM * KS
00347      KNTQU = IM * NLAY * KU
00348      KKQSINC = JNP * IM
00349      KKQSST = 1 - IM
00350      IMNLAY = IM * NLAY
00351      KKQUINC = IMNLAY * JNP
00352      KKQUST = 1 - IMNLAY
00353      DO 200 L = 1,JNP
00354      KKQSST = KKQSST + IM
00355      KKQS = KKQSST
00356      KKQUST = KKQUST + IMNLAY
00357      KKQU = KKQUST
C
C      CONVERT THE FLOATING POINT NUMBERS
00358      DO 30 K = 1,KNTQS
00359      30 HWORK(K) = QS(K,1,L)
00360      CALL Q9CI32(HWORK,QSA,KNTQS,IERR)
00361      IF(IERR.NE.0) WRITE(3,900) IERR
00362      DO 35 K = 1,KNTQU

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SCONHTR 18
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SCONHTR 20
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SCONHTR 22
SCONHTR 23
SBEGDEB 2
SBEGDEB 3
SBEGDEB 4
SBEGDEB 5
SBEGDEB 6
SBEGDEB 7
SCONHTR 25
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SCONHTR 82
SCONHTR 83

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00363      35 HWORK(K) = QU(K,1,1,L)
00364      CALL Q9CI32(HWORK,QUA,KNTQU,IERR)
00365      IF(IERR.NE.0) WRITE(3,900) IERR
C * * *
C RE-ORDER THE FIELDS IN HISTORY FORMAT
DO 150 K = 1,KS
  IF((K.EQ.9).AND.(NB.EQ.1)) GO TO 150
  IF((K.EQ.8).AND.(NB.EQ.2)) GO TO 150
  KI = KKQS
  DO 149 I = 1,IM
    QSH(KI,1,1) = QSA(I,K)
  149 KI = KI + 1
  KKQS = KKQS + KKQSINC
  150 CONTINUE
DO 170 K = 1,KU
  IF((K.LE.10).AND.(MOD(K,2).EQ.0).AND.(NB.EQ.1)) GO TO 170
  IF((K.LE.10).AND.(MOD(K,2).EQ.1).AND.(NB.EQ.2)) GO TO 170
  KI = KKQU
  DO 169 I = 1,IMNLAY
    QUH(KI,1,1,1) = QUA(I,1,K)
  169 KI = KI + 1
  KKQU = KKQU + KKQUINC
  170 CONTINUE
C
00384      200 CONTINUE
C * * *
C WRITE THE FIELDS TO HISTORY
KMAXB = KSS + JNP + IM
KEB = 0
DO 220 KKB = 1,KMAXB,4096
  KSB = KEB + 1
  KEB = MINO(KEB + 4096, KMAXB)
  220 WRITE(8) (QSH(K,1,1),K=KSB,KEB)
  KMAXB = JNP + NLAY + IM
  DO 230 KQ = 1,KUS
    KEB = 0
    DO 230 KKB = 1,KMAXB,4096
      KSB = KEB + 1
      KEB = MINO(KEB + 4096, KMAXB)
      230 WRITE(8) (QUH(K,1,1,KQ),K=KSB,KEB)
C
00398      RETURN
00399      END

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SCONHTR 84
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SCONHTR 95
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SCONHTR122
SCONHTR123
SCONHTR124
SCONHTR125
SCONHTR126

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ORIGINAL PAGE IS
OF POOR QUALITY

STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10	326	322		
10000	311			
149	372	370		
15	333	328	329	330
150	374	366	367	368
169	381	379		
170	383	375	376	377
20	340	335	336	337
200	384	353		
220	390	387		
230	397	392	394	
30	359	358		
35	363	362		
9	318	317		
900	321	320	361	365

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

ADATE	CONTRL	CHAR*8	SIMPLE	3	16
ADLDP	RDPARM	REAL	SIMPLE	206	
ALBEDO	QANDQT	REAL	ARRAY	244	262
AMAM		REAL	UNKNOWN	299	
APHEL	RCNTRL	REAL	SIMPLE	146	

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

ATIME	CCNTRL	CHAR*8	SIMPLE	4	17																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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KSS		INTEGER	SIMPLE	307	327/S	331/S	331	332	385								
KSTEP	IDPARM	INTEGER	SIMPLE	196													
KU	ICNTRL	INTEGER	SIMPLE	41	316	335	347	375									
KUS		INTEGER	SIMPLE	307	334/S	338/S	338	339	345	392							
L		INTEGER	SIMPLE	353/C	359	363											
LA	//	HALF	ARRAY	301	305	324/S	325/S	343/S	344/S	345/W							
LC	LCNTRL	LOGICAL	ARRAY	143	144	325											
LC0	LCNTRL	LOGICAL	SIMPLE	92	143	144											
LCNTRL		INTEGER	UNKNOWN	92	93	94	95	96	97	98	99	100	101	102			
				103	104												
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	116	141												
LOPARM		INTEGER	UNKNOWN	200	201	202											
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	110	135												
LFUSION	LCNTRL	LOGICAL	UNKNOWN	111	136												
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	109	134												
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	139												
LOG8R	ICNTRL	INTEGER	SIMPLE	42													
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	115	140												
LPREACC	LCNTRL	LOGICAL	UNKNOWN	107	132												
LPRECON	LCNTRL	LOGICAL	UNKNOWN	108	133												
LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114			
				128													
LQU	LCNTRL	LOGICAL	ARRAY	104	115	116	117	129									
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138												
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	142												
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	112	137												
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131												
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130												
MATIN	ICNTRL	INTEGER	SIMPLE	43													
MATSNX	ICNTRL	INTEGER	SIMPLE	44													
MATSUN	ICNTRL	INTEGER	SIMPLE	45													
MJ	IDPARM	INTEGER	ARRAY	197													
MLF	ICNTRL	INTEGER	ARRAY	46													
MROD	ICNTRL	INTEGER	SIMPLE	47													
MSM	ICNTRL	INTEGER	SIMPLE	49													
NB	ICNTRL	INTEGER	SIMPLE	50	329	330	336	337	367	368	376	377					
ND	ICNTRL	INTEGER	SIMPLE	51													
NDALT	ICNTRL	INTEGER	SIMPLE	52													
NDAY	ICNTRL	INTEGER	SIMPLE	53													
NDHOG	ICNTRL	INTEGER	SIMPLE	74													
NDOUT	ICNTRL	INTEGER	SIMPLE	54													
NDPHY	ICNTRL	INTEGER	SIMPLE	55													
NDRSW	ICNTRL	INTEGER	SIMPLE	29													
NDSHF	ICNTRL	INTEGER	SIMPLE	56													
NDT	ICNTRL	INTEGER	SIMPLE	57													
NHMS	ICNTRL	INTEGER	SIMPLE	58													
NHMS0	ICNTRL	INTEGER	SIMPLE	60													
NHMS1	IDPARM	INTEGER	SIMPLE	198													
NHMSE	ICNTRL	INTEGER	SIMPLE	59													
NKRSH	ICNTRL	INTEGER	SIMPLE	48													
NLAY	ICNTRL	INTEGER	SIMPLE	61	347	350	391										
NLAYM1	ICNTRL	INTEGER	SIMPLE	62													
NLAYP1	ICNTRL	INTEGER	SIMPLE	63													
NMLEV	ICNTRL	INTEGER	SIMPLE	73													
NSDAY	ICNTRL	INTEGER	SIMPLE	64													
NSEQ	ICNTRL	INTEGER	SIMPLE	65													
NSTEP	ICNTRL	INTEGER	SIMPLE	67													
NYMD	ICNTRL	INTEGER	SIMPLE	69													
NYMD0	ICNTRL	INTEGER	SIMPLE	71													
NYMD1	IDPARM	INTEGER	SIMPLE	199													
NYMDE	ICNTRL	INTEGER	SIMPLE	70													
NZINIT	ICNTRL	INTEGER	SIMPLE	72													
OMEGA	QANDQT	REAL	ARRAY	284	293												
OMEGA2	RCNTRL	REAL	SIMPLE	161													
P	QANDQT	REAL	ARRAY	249	267												
PHI	QANDQT	REAL	ARRAY	283	292												
PHIS	QANDQT	REAL	ARRAY	242	260												
PI	RCNTRL	REAL	SIMPLE	162													
PI180	RCNTRL	REAL	SIMPLE	163													

PI2	RCNTRL	REAL	SIMPLE	164																
PIMEAN	RCNTRL	REAL	SIMPLE	166																
PKSTD	RDPARM	REAL	SIMPLE	227																
PKTOP	RDPARM	REAL	SIMPLE	228																
PLEVS	RCNTRL	REAL	ARRAY	180																
PREACC	QANDQT	REAL	ARRAY	252	270															
PRECON	QANDQT	REAL	ARRAY	253	271															
PSMAX	RCNTRL	REAL	SIMPLE	167																
PSMIN	RCNTRL	REAL	SIMPLE	168																
PSTD	RCNTRL	REAL	SIMPLE	165																
PTOP	RCNTRL	REAL	SIMPLE	169																
PZERO	RCNTRL	REAL	SIMPLE	186																
QALT	LCNTRL	LOGICAL	SIMPLE	93	118															
QANDQT	LCNTRL	REAL	UNKNOWN	241	278															
QBEG	LCNTRL	LOGICAL	SIMPLE	94	119															
QDAY	LCNTRL	LOGICAL	SIMPLE	95	120															
QEND	LCNTRL	LOGICAL	SIMPLE	96	121															
QOUT	LCNTRL	LOGICAL	SIMPLE	97	122															
QPHY	LCNTRL	LOGICAL	SIMPLE	98	123															
QRSH	LCNTRL	LOGICAL	SIMPLE	102	127	344														
QRSW	LCNTRL	LOGICAL	SIMPLE	101	126															
QS	QANDQT	REAL	ARRAY	241	260	261	262	263	264	265	266	267	268	269						
				270	271	272	273	274	275	276	277	359								
QSA	//	HALF	ARRAY	303	305	360	371													
QSH	AMAM	HALF	ARRAY	299	300	371/S	390/W													
QSHF	LCNTRL	LOGICAL	SIMPLE	99	124															
QU	QANDQT	REAL	ARRAY	278	288	289	290	291	292	293	294	295	296	363						
QUA	//	HALF	ARRAY	303	305	364	380													
QUH	AMAM	HALF	ARRAY	299	300	380/S	397/W													
RA	//	HALF	ARRAY	301	305	319	345/W													
RADE	RCNTRL	REAL	SIMPLE	170																
RADLW	QANDQT	REAL	ARRAY	287	296															
RADLWG	QANDQT	REAL	ARRAY	258	276															
RADSW	QANDQT	REAL	ARRAY	285	295															
RADSWG	QANDQT	REAL	ARRAY	257	275															
RC	RCNTRL	REAL	ARRAY	187	188	318														
RCO	RCNTRL	REAL	SIMPLE	145	187	188														
RCNTRL		REAL	UNKNOWN	145	146	147	148	149	150	151	152	153	154	155						
				156	157	158	159	160	161	162	163	164	165	166						
				167	168	169	170	171	172	173	174	175	176	177						
				178	179	180	181	182	183	184	185	186								
RDPARM		REAL	UNKNOWN	206	207	208	209	210	211	212	213	214	215	216						
				217	218	219	220	221	222	223	224	225	226	227						
				228	229	230	231	232	233	234	235	236	237	238						
				239	240															
RGAS	RCNTRL	REAL	SIMPLE	171																
RLAT	RDPARM	REAL	ARRAY	229																
RLATD	RDPARM	REAL	ARRAY	230																
ROCP	RCNTRL	REAL	SIMPLE	172																
ROCPDT	RDPARM	REAL	SIMPLE	231																
ROCPP1	RDPARM	REAL	SIMPLE	232																
RSDIST	RCNTRL	REAL	SIMPLE	173																
SDAY	RCNTRL	REAL	SIMPLE	174																
SEASON	RCNTRL	REAL	SIMPLE	175																
SGNP	RDPARM	REAL	ARRAY	233																
SH	QANDQT	REAL	ARRAY	282	291															
SHS	QANDQT	REAL	ARRAY	248	266															
SIG	RDPARM	REAL	ARRAY	240																
SIGE	RCNTRL	REAL	ARRAY	176																
SIND	RCNTRL	REAL	SIMPLE	177																
SINL	RDPARM	REAL	ARRAY	234																
SINLON	RDPARM	REAL	ARRAY	235																
SMTH	QANDQT	REAL	ARRAY	243	261															
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125															
SOLS	RCNTRL	REAL	SIMPLE	178																
START	LDPARM	LOGICAL	SIMPLE	202	205															
T	QANDQT	REAL	ARRAY	281	290															
THSTD	RDPARM	REAL	SIMPLE	236																
THSTD2	RDPARM	REAL	SIMPLE	237																
TMAX	QANDQT	REAL	ARRAY	251	269															

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TMIN	QANDQT	REAL	ARRAY	250	268				
TS	QANDQT	REAL	ARRAY	247	265				
TSTD	RCNTRL	REAL	SIMPLE	179					
U	QANDQT	REAL	ARRAY	279	288				
V	QANDQT	REAL	ARRAY	280	289				
VER	CONTRL	CHAR*8	SIMPLE	10	23				
WSAVE	RDPARM	REAL	ARRAY	238					
XLABEL	CONTRL	CHAR*8	ARRAY	11	24				
XORDS	CORDER	CHAR*8	ARRAY	297	298	315			
XORDU	CORDER	CHAR*8	ARRAY	297	298	316			
XSA	//	REAL	ARRAY	302	304	315	332/S	332	345/W
XUA	//	REAL	ARRAY	302	304	316	339/S	339	345/W

PROCEDURE MAP

--NAME-----TYPE-----CLASS-----REFERENCES D=STMT FN DEF, A=ARGLIST

ATOE		SUBROUTINE	313	315	316	
MINO	INTEGER	INTRINSIC	389	396		
MOD	INTEGER	INTRINSIC	336	337	376	377
Q9C132		SUBROUTINE	319	360	364	

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```
00001      SUBROUTINE CONSTA
C
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00002      COMMON /CCNTRL/ CCO
00003      COMMON /CCNTRL/ ADATE
00004      COMMON /CCNTRL/ ATIME
00005      COMMON /CCNTRL/ JIC
00006      COMMON /CCNTRL/ JOB
00007      COMMON /CCNTRL/ CCSP06
00008      COMMON /CCNTRL/ CCSP07
00009      COMMON /CCNTRL/ CCSP08
00010      COMMON /CCNTRL/ VER
00011      COMMON /CCNTRL/ XLABEL (10)
00012      COMMON /CCNTRL/ CQS (30)
00013      COMMON /CCNTRL/ CQU (10)
C
00014      EQUIVALENCE      (CC0,CC(1))
00015      CHARACTER*8      CCO, CC(200)
00016      CHARACTER*8      ADATE
00017      CHARACTER*8      ATIME
00018      CHARACTER*8      JIC
00019      CHARACTER*8      JOB
00020      CHARACTER*8      CCSP06
00021      CHARACTER*8      CCSP07
00022      CHARACTER*8      CCSP08
00023      CHARACTER*8      VER
00024      CHARACTER*8      XLABEL
C
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00025      COMMON /ICNTRL/ ICO
00026      COMMON /ICNTRL/ IM
00027      COMMON /ICNTRL/ IMD2
00028      COMMON /ICNTRL/ IMD2P1
00029      COMMON /ICNTRL/ NDRSW
00030      COMMON /ICNTRL/ JM
00031      COMMON /ICNTRL/ JMD2
00032      COMMON /ICNTRL/ JMT2
00033      COMMON /ICNTRL/ JNP
00034      COMMON /ICNTRL/ JO4
00035      COMMON /ICNTRL/ JOB
00036      COMMON /ICNTRL/ JSP
00037      COMMON /ICNTRL/ KLIALB
00038      COMMON /ICNTRL/ KLIW
00039      COMMON /ICNTRL/ KLISST
00040      COMMON /ICNTRL/ KS
00041      COMMON /ICNTRL/ KU
00042      COMMON /ICNTRL/ LOGBR
00043      COMMON /ICNTRL/ MATIN
00044      COMMON /ICNTRL/ MATSNX
00045      COMMON /ICNTRL/ MATSUN
00046      COMMON /ICNTRL/ MLF      (12)
00047      COMMON /ICNTRL/ MROD
00048      COMMON /ICNTRL/ NKRSH
00049      COMMON /ICNTRL/ MSM
00050      COMMON /ICNTRL/ NB
00051      COMMON /ICNTRL/ ND
00052      COMMON /ICNTRL/ NDALT
00053      COMMON /ICNTRL/ NDAY
00054      COMMON /ICNTRL/ NDOUT
00055      COMMON /ICNTRL/ NDPHY
00056      COMMON /ICNTRL/ NDSHF
00057      COMMON /ICNTRL/ NDT
00058      COMMON /ICNTRL/ NHMS
00059      COMMON /ICNTRL/ NHMSE
00060      COMMON /ICNTRL/ NHMSO
00061      COMMON /ICNTRL/ NLAY
00062      COMMON /ICNTRL/ NLAYM1
00063      COMMON /ICNTRL/ NLAYP1
00064      COMMON /ICNTRL/ NSDAY
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SCNTRL 71
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00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS(30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU(10)	SCNTRL 83
C		SCNTRL 84
00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 85
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 86
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 87
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 88
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 89
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 91
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 92
00085	EQUIVALENCE (IRADSWG ,IQS(9))	SCNTRL 93
00086	EQUIVALENCE (IICLOUD ,IQS(10))	SCNTRL 94
C		SCNTRL 95
00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 96
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 97
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 98
C		SCNTRL 99
00090	EQUIVALENCE (IC0,IC(1))	SCNTRL 100
00091	INTEGER IC0, IC(200)	SCNTRL 101
C		SCNTRL 102
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL 103
C	=====	SCNTRL 104
00092	COMMON /LCNTRL/ LCO	SCNTRL 105
00093	COMMON /LCNTRL/ QALT	SCNTRL 106
00094	COMMON /LCNTRL/ QBEG	SCNTRL 107
00095	COMMON /LCNTRL/ QDAY	SCNTRL 108
00096	COMMON /LCNTRL/ QEND	SCNTRL 109
00097	COMMON /LCNTRL/ QOUT	SCNTRL 110
00098	COMMON /LCNTRL/ QPHY	SCNTRL 111
00099	COMMON /LCNTRL/ QSHF	SCNTRL 112
00100	COMMON /LCNTRL/ SN2FLG	SCNTRL 113
00101	COMMON /LCNTRL/ QRSW	SCNTRL 114
00102	COMMON /LCNTRL/ QRSW	SCNTRL 115
00103	COMMON /LCNTRL/ LQS(30)	SCNTRL 116
00104	COMMON /LCNTRL/ LQU(10)	SCNTRL 117
C		SCNTRL 118
00105	EQUIVALENCE (LTMIN ,LQS(1))	SCNTRL 119
00106	EQUIVALENCE (LTMAX ,LQS(2))	SCNTRL 120
00107	EQUIVALENCE (LPREACC ,LQS(3))	SCNTRL 121
00108	EQUIVALENCE (LPRECON ,LQS(4))	SCNTRL 122
00109	EQUIVALENCE (LHFLUX ,LQS(5))	SCNTRL 123
00110	EQUIVALENCE (LEFLUX ,LQS(6))	SCNTRL 124
00111	EQUIVALENCE (LFUSION ,LQS(7))	SCNTRL 125
00112	EQUIVALENCE (LRADSWG ,LQS(8))	SCNTRL 126
00113	EQUIVALENCE (LRADSWG ,LQS(9))	SCNTRL 127
00114	EQUIVALENCE (LIICLOUD ,LQS(10))	SCNTRL 128
C		SCNTRL 129
00115	EQUIVALENCE (LOMEGA ,LQU(1))	SCNTRL 130
00116	EQUIVALENCE (LDIABAT ,LQU(2))	SCNTRL 131
00117	EQUIVALENCE (LRADSW ,LQU(3))	SCNTRL 132
C		SCNTRL 133
00118	LOGICAL QALT	SCNTRL 134
00119	LOGICAL QBEG	SCNTRL 135
00120	LOGICAL QDAY	SCNTRL 136
00121	LOGICAL QEND	SCNTRL 137
00122	LOGICAL QOUT	SCNTRL 138
00123	LOGICAL QPHY	SCNTRL 139
00124	LOGICAL QSHF	SCNTRL 140
00125	LOGICAL SN2FLG	SCNTRL 141
00126	LOGICAL QRSW	SCNTRL 142

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00127 C LOGICAL QRSH
00128 C LOGICAL LQS
00129 C LOGICAL LQU
00130 C LOGICAL LTMIN
00131 C LOGICAL LTMAX
00132 C LOGICAL LPREACC
00133 C LOGICAL LPRECON
00134 C LOGICAL LHFLUX
00135 C LOGICAL LEFLUX
00136 C LOGICAL LFUSION
00137 C LOGICAL LRADSWG
00138 C LOGICAL LRADLWG
00139 C LOGICAL LTCLOUD
00140 C LOGICAL LOMEGA
00141 C LOGICAL LDIABAT
00142 C LOGICAL LRADSW
00143 C EQUIVALENCE (LC0,LC(1))
00144 C LOGICAL LC0, LC(200)
C REAL MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00145 COMMON /RCNTRL/ RCO
00146 COMMON /RCNTRL/ APHEL
00147 COMMON /RCNTRL/ BETA
00148 COMMON /RCNTRL/ COSD
00149 COMMON /RCNTRL/ CP
00150 COMMON /RCNTRL/ DAYSPY
00151 COMMON /RCNTRL/ DEC
00152 COMMON /RCNTRL/ DECMAX
00153 COMMON /RCNTRL/ DIST
00154 COMMON /RCNTRL/ DLAT
00155 COMMON /RCNTRL/ DLON
00156 COMMON /RCNTRL/ DT
00157 COMMON /RCNTRL/ ECCN
00158 COMMON /RCNTRL/ GNU1
00159 COMMON /RCNTRL/ GNU2
00160 COMMON /RCNTRL/ GRAV
00161 COMMON /RCNTRL/ OMEGA2
00162 COMMON /RCNTRL/ PI
00163 COMMON /RCNTRL/ PI180
00164 COMMON /RCNTRL/ PI2
00165 COMMON /RCNTRL/ PSTD
00166 COMMON /RCNTRL/ PIMEAN
00167 COMMON /RCNTRL/ PSMAX
00168 COMMON /RCNTRL/ PSMIN
00169 COMMON /RCNTRL/ PTOP
00170 COMMON /RCNTRL/ RADE
00171 COMMON /RCNTRL/ RGAS
00172 COMMON /RCNTRL/ ROCP
00173 COMMON /RCNTRL/ RSDIST
00174 COMMON /RCNTRL/ SDAY
00175 COMMON /RCNTRL/ SEASON
00176 COMMON /RCNTRL/ SIGE (25)
00177 COMMON /RCNTRL/ SIND
00178 COMMON /RCNTRL/ SOLS
00179 COMMON /RCNTRL/ TSTD
00180 COMMON /RCNTRL/ PLEVS (25)
00181 COMMON /RCNTRL/ HEATW
00182 COMMON /RCNTRL/ HEATI
00183 COMMON /RCNTRL/ EPS
00184 COMMON /RCNTRL/ EPSFAC
00185 COMMON /RCNTRL/ CALTOJ
00186 COMMON /RCNTRL/ PZERO
00187 C EQUIVALENCE (RC0,RC(1))
00188 C REAL RC0, RC(200)
C INTEGER MODEL CONSTANTS
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C *****
00189 COMMON /IDPARM/ IJUMP (46)
00190 COMMON /IDPARM/ IDSP02
00191 COMMON /IDPARM/ INDEX (72)
00192 COMMON /IDPARM/ IROD
00193 COMMON /IDPARM/ JC (46)
00194 COMMON /IDPARM/ JE (2)
00195 COMMON /IDPARM/ JP (2,2)
00196 COMMON /IDPARM/ KSTEP
00197 COMMON /IDPARM/ MJ (46)
00198 COMMON /IDPARM/ NHMS1
00199 COMMON /IDPARM/ NYMD1

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C
C LOGICAL MODEL CONSTANTS
C *****

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00200 COMMON /LDPARM/ FILTER (46)
00201 COMMON /LDPARM/ ITAPE
00202 COMMON /LDPARM/ START

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C
C LOGICAL FILTER
C LOGICAL ITAPE
C LOGICAL START

C
C REAL MODEL CONSTANTS
C *****

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00206 COMMON /RDPARM/ ADLDP
00207 COMMON /RDPARM/ CON1
00208 COMMON /RDPARM/ CON1DT
00209 COMMON /RDPARM/ CON2
00210 COMMON /RDPARM/ CON2DT
00211 COMMON /RDPARM/ CON3
00212 COMMON /RDPARM/ CON3DT
00213 COMMON /RDPARM/ CON4
00214 COMMON /RDPARM/ CON4DT
00215 COMMON /RDPARM/ CON5
00216 COMMON /RDPARM/ COSL (46)
00217 COMMON /RDPARM/ COSLON (72)
00218 COMMON /RDPARM/ CPD2
00219 COMMON /RDPARM/ DXP (46)
00220 COMMON /RDPARM/ DXYP (46)
00221 COMMON /RDPARM/ DYP (46)
00222 COMMON /RDPARM/ FCORLS (46)
00223 COMMON /RDPARM/ F1DT
00224 COMMON /RDPARM/ F2DT
00225 COMMON /RDPARM/ H1DT
00226 COMMON /RDPARM/ H2DT
00227 COMMON /RDPARM/ PKSTD
00228 COMMON /RDPARM/ PKTOP
00229 COMMON /RDPARM/ RLAT (46)
00230 COMMON /RDPARM/ RLATD (46)
00231 COMMON /RDPARM/ ROCPTD
00232 COMMON /RDPARM/ ROCPP1
00233 COMMON /RDPARM/ SGNP (2)
00234 COMMON /RDPARM/ SINL (46)
00235 COMMON /RDPARM/ SINLON (72)
00236 COMMON /RDPARM/ THSTD
00237 COMMON /RDPARM/ THSTD2
00238 COMMON /RDPARM/ WSAVE (159)
00239 COMMON /RDPARM/ DSIG (9)
00240 COMMON /RDPARM/ SIG (9)

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C
C *
C PHYSICS PARAMETERS AND CONSTANTS

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00241 COMMON /CNTRLP/ CDFR
00242 COMMON /CNTRLP/ CDXL
00243 COMMON /CNTRLP/ CDXO
00244 COMMON /CNTRLP/ CLH
00245 COMMON /CNTRLP/ COE (9)
00246 COMMON /CNTRLP/ COEF
00247 COMMON /CNTRLP/ COEFS
00248 COMMON /CNTRLP/ COSROT

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00302 EQUIVALENCE (QS(1,1,1),PHIS(1,1))
00303 EQUIVALENCE (QS(1,2,1),SMTH(1,1))
00304 EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))
00305 EQUIVALENCE (QS(1,4,1),GT(1,1))
00306 EQUIVALENCE (QS(1,5,1),GW(1,1))
00307 EQUIVALENCE (QS(1,6,1),TS(1,1))
00308 EQUIVALENCE (QS(1,7,1),SHS(1,1))
00309 EQUIVALENCE (QS(1,8,1),P(1,1,1))
00310 EQUIVALENCE (QS(1,10,1),TMIN(1,1))
00311 EQUIVALENCE (QS(1,11,1),TMAX(1,1))
00312 EQUIVALENCE (QS(1,12,1),PREACC(1,1))
00313 EQUIVALENCE (QS(1,13,1),PRECON(1,1))
00314 EQUIVALENCE (QS(1,14,1),HFLUX(1,1))

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00315      EQUIVALENCE      (QS(1,15,1),EFLUX(1,1))
00316      EQUIVALENCE      (QS(1,16,1),FUSION(1,1))
00317      EQUIVALENCE      (QS(1,17,1),RADSWG(1,1))
00318      EQUIVALENCE      (QS(1,18,1),RADLWG(1,1))
00319      EQUIVALENCE      (QS(1,19,1),ICLOUD(1,1))
C
C  GLOBAL MODEL UPPER-AIR FIELDS
00320      COMMON /QANDQT/ QU(72,9,14,46)
C
00321      DIMENSION          U(72,9,14,1)
00322      DIMENSION          V(72,9,14,1)
00323      DIMENSION          T(72,9,14,1)
00324      DIMENSION          SH(72,9,14,1)
00325      DIMENSION          PHI(72,9,14,1)
00326      DIMENSION          OMEGA(72,126,1)
00327      DIMENSION          DIABAT(72,126,1)
00328      DIMENSION          RADSW(72,126,1)
00329      DIMENSION          RADLW(72,126,1)
C
00330      EQUIVALENCE      (QU(1,1,1,1),U(1,1,1,1))
00331      EQUIVALENCE      (QU(1,1,3,1),V(1,1,1,1))
00332      EQUIVALENCE      (QU(1,1,5,1),T(1,1,1,1))
00333      EQUIVALENCE      (QU(1,1,7,1),SH(1,1,1,1))
00334      EQUIVALENCE      (QU(1,1,9,1),PHI(1,1,1,1))
00335      EQUIVALENCE      (QU(1,1,11,1),OMEGA(1,1,1))
00336      EQUIVALENCE      (QU(1,1,12,1),DIABAT(1,1,1))
00337      EQUIVALENCE      (QU(1,1,13,1),RADSW(1,1,1))
00338      EQUIVALENCE      (QU(1,1,14,1),RADLW(1,1,1))
C
C  RADIATION AND SOURCE TERM FIELDS
00339      COMMON /RADCOM/ AS(72,9), RE(72,10)
00340      COMMON /RADCOM/ PL(72,9), PLE(72,10)
00341      COMMON /RADCOM/ PLK(72,9), PLKE(10)
00342      COMMON /RADCOM/ TL(72,9), TLE(72,10)
00343      COMMON /RADCOM/ TG(72), TH(72,9)
00344      COMMON /RADCOM/ SHL(72,9), SHLE(72,10)
00345      COMMON /RADCOM/ SHG(72), CLOUD(72,12)
00346      COMMON /RADCOM/ SHSAT(72,9), GAM(72,9)
00347      COMMON /RADCOM/ RH(72,9)
00348      COMMON /RADCOM/ SSS(72,9), SSSE(72,10)
00349      COMMON /RADCOM/ HH(72,9), HHE(72,10)
00350      COMMON /RADCOM/ HHS(72,9)
00351      COMMON /RADCOM/ CVT(72,9), CVQ(72,9)
00352      COMMON /RADCOM/ CXDE(9)
00353      COMMON /RADCOM/ SWALE(72,10), SWIL(72,9)
00354      COMMON /RADCOM/ AL(72,10)
00355      COMMON /RADCOM/ TAUL(72,10), OZALE(72,10)
00356      COMMON /RADCOM/ TOPABS(72)
00357      COMMON /RADCOM/ RN(9), TN(9), SRS(9), STN(9)
00358      COMMON /RADCOM/ TCOND(9), TPENE(9)
00359      COMMON /RADCOM/ TLOWL,TMIDL,NLAYOZ
00360      COMMON /RADCOM/ FK(5), XK(5), NFK
00361      COMMON /RADCOM/ OLJAN(19), OLAPR(19), OLJUL(19), OLOCT(19)
00362      COMMON /RADCOM/ OCM22(23), OCM30(23), OCM38(23), OCM46(23)
00363      COMMON /RADCOM/ PROCM(23), OCMXX(23), NOZ, TOTOZ(4), CDATE(6)
00364      COMMON /RADCOM/ CZH(72), WET(72), EVAP, PREP(72), WI(72)
00365      COMMON /RADCOM/ COSZ(72), SO, RADTRM(72), CXL
00366      COMMON /RADCOM/ SQ(72), SP(72)
00367      COMMON /RADCOM/ RSURF(72), RCLLOUD(72), JALB
00368      COMMON /RADCOM/ LAND(72), OCEAN(72), ICE(72)
00369      COMMON /RADCOM/ SNOW(72), MIXWI(72), FROST(72)
00370      LOGICAL          LAND, OCEAN, ICE, SNOW, MIXWI, FROST
C
C  PHYSICS INPUT NAMELIST
00371      NAMELIST /INPHYS/ CDXL, CDXO, ED, FMU, FWET, NDHOG, NFLW
00372      LOGICAL ONCE/.FALSE./
C
C  DEBUG
00373      10000 CONTINUE

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SQANDQT 38
SQANDQT 39
SQANDQT 40
SQANDQT 41
SQANDQT 42
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SQANDQT 57
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SQANDQT 59
SQANDQT 60
SQANDQT 61
SQANDQT 62
SQANDQT 63
SQANDQT 64
SQANDQT 65
SQANDQT 66
SRADCOM 2
SRADCOM 3
SRADCOM 4
SRADCOM 5
SRADCOM 6
SRADCOM 7
SRADCOM 8
SRADCOM 9
SRADCOM 10
SRADCOM 11
SRADCOM 12
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SRADCOM 14
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SRADCOM 16
SRADCOM 17
SRADCOM 18
SRADCOM 19
SRADCOM 20
SRADCOM 21
SRADCOM 22
SRADCOM 23
SRADCOM 24
SRADCOM 25
SRADCOM 26
SRADCOM 27
SRADCOM 28
SRADCOM 29
SRADCOM 30
SRADCOM 31
SRADCOM 32
SRADCOM 33
SRADCOM 34
SRADCOM 35
SRADCOM 36
SINPHYS 2
SINPHYS 3
SINPHYS 4
SCONSTA 8
SCONSTA 9
SBEGDEB 2
SBEGDEB 3

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00413      NFWL = 5
00414      READ (11,INPHYS,END=20)
00415      20 CONTINUE
00416      WRITE(3,INPHYS)
00417      FCOEF = 258.*GRAV**2*FMU*DTCT37(500.*RGAS)

C
C .....
C .....
C .....
C .....
C .....
C .....
C .....
C .....
C .....
C .....

00418      50 CONTINUE

C
00419      QHOG = NDHOG.NE.0 .AND. MODHMS(NHMS,NDHOG)/NDTC3.EQ.0
00420      ROT = PI2*NSDAY/SDAY
00421      COSROT = COS(ROT)
00422      SINROT = SIN(ROT)
00423      SNODEC = PI/12.*COS(.9863*(NDAY-24.668)*PI180)
00424      SNOWN = PI/3. - SNODEC
00425      SNOWS = -PI/3. - SNODEC
00426      XDAY = FLOAT(NDAY+63)

C
00427      RETURN
00428      END

```

```
SCONSTA 78
SCONSTA 79
SCONSTA 80
SCONSTA 81
SCONSTA 82
SCONSTA 83
SCONSTA 84
SCONSTA 85
SCONSTA 86
SCONSTA 87
SCONSTA 88
SCONSTA 89
SCONSTA 90
SCONSTA 91
SCONSTA 92
SCONSTA 93
SCONSTA 94
SCONSTA 95
SCONSTA 96
SCONSTA 97
SCONSTA 98
SCONSTA 99
SCONSTA 100
SCONSTA 101
SCONSTA 102
```

STATEMENT LABEL MAP
--LABEL--DEFINED--REFERENCES

10	401	399	
100	405	402	403
10000	373		
20	415	414	
50	418	374	

```

VARIABLE MAP
--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES      A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

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CON1	RDPARM	REAL	SIMPLE	207					
CON1DT	RDPARM	REAL	SIMPLE	208					
CON2	RDPARM	REAL	SIMPLE	209					
CON2DT	RDPARM	REAL	SIMPLE	210					
CON3	RDPARM	REAL	SIMPLE	211					
CON3DT	RDPARM	REAL	SIMPLE	212					
CON4	RDPARM	REAL	SIMPLE	213					
CON4DT	RDPARM	REAL	SIMPLE	214					
CON5	RDPARM	REAL	SIMPLE	215					
CONSTA			SUBROUTINE	1					
COSD	RCNTRL	REAL	SIMPLE	148					
COSL	RDPARM	REAL	ARRAY	216					
COSLON	RDPARM	REAL	ARRAY	217					
COSROT	CNTRL	REAL	SIMPLE	248	421/S				
COSZ	RADCOM	REAL	ARRAY	365					
CP	RCNTRL	REAL	SIMPLE	149					
CPD2	RDPARM	REAL	SIMPLE	218					
CPP	CNTRL	REAL	SIMPLE	249	386	397			
CQS	CNTRL	REAL	ARRAY	12					
CQU	CNTRL	REAL	ARRAY	13					
CTID	CNTRL	REAL	SIMPLE	250	390/S				
CUMDAY	CNTRL	REAL	SIMPLE	251	380/S				
CUMRAT	CNTRL	REAL	SIMPLE	252	379/S				
CVQ	RADCOM	REAL	ARRAY	351					
CVT	RADCOM	REAL	ARRAY	351					
CXDE	RADCOM	REAL	ARRAY	352					
CXL	RADCOM	REAL	SIMPLE	365					
CZH	RADCOM	REAL	ARRAY	364					
DAYSPLY	RCNTRL	REAL	SIMPLE	150					
DEC	RCNTRL	REAL	SIMPLE	151					
DECMAX	RCNTRL	REAL	SIMPLE	152					
DELTA	CNTRL	REAL	SIMPLE	256					
DIABAT	QANDQT	REAL	ARRAY	327	336				
DIST	RCNTRL	REAL	SIMPLE	153					
DLAT	RCNTRL	REAL	SIMPLE	154					
DLOW	RCNTRL	REAL	SIMPLE	155					
DSIG	RDPARM	REAL	ARRAY	239	396	398	400		
DT	RCNTRL	REAL	SIMPLE	156					
DTCS	CNTRL	REAL	SIMPLE	257	377/S	379	397	398	417
DTOUT	CNTRL	REAL	SIMPLE	258	378/S	379	380		
DXP	RDPARM	REAL	ARRAY	219					
DXYP	RDPARM	REAL	ARRAY	220					
DYP	RDPARM	REAL	ARRAY	221					
ECCN	RCNTRL	REAL	SIMPLE	157					
ED	CNTRL	REAL	SIMPLE	259	371	409/S			
EDNM	CNTRL	REAL	SIMPLE	260					
EFLUX	QANDQT	REAL	ARRAY	297	315				
EPS	RCNTRL	REAL	SIMPLE	183	385/S	387			
EPSFAC	RCNTRL	REAL	SIMPLE	184	387/S	388			
EVAP	RADCOM	REAL	SIMPLE	364					
F1DT	RDPARM	REAL	SIMPLE	223					
F2DT	RDPARM	REAL	SIMPLE	224					
FCOEF	CNTRL	REAL	SIMPLE	261	417/S				
FCORLS	RDPARM	REAL	ARRAY	222					
FILTER	LDPARM	LOGICAL	ARRAY	200	203				
FK	RADCOM	REAL	ARRAY	360					
FMU	CNTRL	REAL	SIMPLE	262	371	410/S	417		
FROST	RADCOM	LOGICAL	ARRAY	369	370				
FUSION	QANDQT	REAL	ARRAY	298	316				
FWET	CNTRL	REAL	SIMPLE	263	371	411/S			
GAM	RADCOM	REAL	ARRAY	346					
GAMFAC	CNTRL	REAL	SIMPLE	264	388/S				
GNU1	RCNTRL	REAL	SIMPLE	158					
GNU2	RCNTRL	REAL	SIMPLE	159					
GRAV	RCNTRL	REAL	SIMPLE	160	389	393	396	398	417
GT	QANDQT	REAL	ARRAY	287	305	404	404/S		
GTOP0	CNTRL	REAL	SIMPLE	265	389/S				
GW	QANDQT	REAL	ARRAY	288	306				
H1DT	RDPARM	REAL	SIMPLE	225					
H2DT	RDPARM	REAL	SIMPLE	226					

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LDIABAT	LCNTRL	LOGICAL	UNKNOWN	103	104														
LDPARM		INTEGER	UNKNOWN	116	141														
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	200	201	202													
LFUSION	LCNTRL	LOGICAL	UNKNOWN	110	135														
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	111	136														
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	109	134														
LOGBR	ICNTRL	INTEGER	UNKNOWN	114	135														
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	42															
LPREACC	LCNTRL	LOGICAL	UNKNOWN	115	140														
LPRECON	LCNTRL	LOGICAL	UNKNOWN	107	132														
LQS	LCNTRL	LOGICAL	UNKNOWN	108	133														
		ARRAY		103	105	106	107	108	109	110	111	112	113	114					
				128															
LQU	LCNTRL	LOGICAL	ARRAY	104	115	116	117	129											
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138														
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	142														
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	112	137														
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131														
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130														
MATIN	ICNTRL	INTEGER	SIMPLE	43															
MATSNX	ICNTRL	INTEGER	SIMPLE	44															
MATSUN	ICNTRL	INTEGER	SIMPLE	45															
MIXWI	RADCOM	LOGICAL	ARRAY	369	370														
MJ	IDPARM	INTEGER	ARRAY	197															
MLF	ICNTRL	INTEGER	ARRAY	46															
MROD	ICNTRL	INTEGER	SIMPLE	47															
MSM	ICNTRL	INTEGER	SIMPLE	49															
NB	ICNTRL	INTEGER	SIMPLE	50															
ND	ICNTRL	INTEGER	SIMPLE	51															
NDALT	ICNTRL	INTEGER	SIMPLE	52															
NDAY	ICNTRL	INTEGER	SIMPLE	53	423	426													
NDHOG	ICNTRL	INTEGER	SIMPLE	74	371	412/S	419	419											
NDOUT	ICNTRL	INTEGER	SIMPLE	54	378														
NDPHY	ICNTRL	INTEGER	SIMPLE	55	376														
NDRSW	ICNTRL	INTEGER	SIMPLE	29															
NDSHF	ICNTRL	INTEGER	SIMPLE	56															
NDT	ICNTRL	INTEGER	SIMPLE	57															
NDTC3	CNTRLP	INTEGER	SIMPLE	267	376/S	377	419												
NFK	RADCOM	INTEGER	SIMPLE	360															
NFLW	CNTRLP	INTEGER	SIMPLE	268	371	413/S													
NHMS	ICNTRL	INTEGER	SIMPLE	58	419														
NHMSO	ICNTRL	INTEGER	SIMPLE	60															
NHMS1	IDPARM	INTEGER	SIMPLE	198															
NHMSE	ICNTRL	INTEGER	SIMPLE	59															
NKRSH	ICNTRL	INTEGER	SIMPLE	48															
NLAY	ICNTRL	INTEGER	SIMPLE	61	394	395	395	396	398	399									
NLAYM1	ICNTRL	INTEGER	SIMPLE	62	394	394	395												
NLAYOZ	RADCOM	INTEGER	SIMPLE	359															
NLAYP1	ICNTRL	INTEGER	SIMPLE	63	394	395													
NMLEV	ICNTRL	INTEGER	SIMPLE	73															
NOZ	RADCOM	INTEGER	SIMPLE	363															
NSDAY	ICNTRL	INTEGER	SIMPLE	64	420														
NSEQ	ICNTRL	INTEGER	SIMPLE	65															
NSTEP	ICNTRL	INTEGER	SIMPLE	67															
NYMD	ICNTRL	INTEGER	SIMPLE	69															
NYMDO	ICNTRL	INTEGER	SIMPLE	71															
NYMD1	IDPARM	INTEGER	SIMPLE	199															
NYMDE	ICNTRL	INTEGER	SIMPLE	70															
NZINIT	ICNTRL	INTEGER	SIMPLE	72															
OCEAN	RADCOM	LOGICAL	ARRAY	368	370														
OCM22	RADCOM	REAL	ARRAY	362															
OCM30	RADCOM	REAL	ARRAY	362															
OCM38	RADCOM	REAL	ARRAY	362															
OCM46	RADCOM	REAL	ARRAY	362															
OCMXX	RADCOM	REAL	ARRAY	363															
OLAPR	RADCOM	REAL	ARRAY	361															
OLJAN	RADCOM	REAL	ARRAY	361															
OLJUL	RADCOM	REAL	ARRAY	361															
OLOCT	RADCOM	REAL	ARRAY	361															
OMEGA	QANDQT	REAL	ARRAY	326	335														

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OF POOR QUALITY

OMEGA2	RCNTRL	REAL	SIMPLE	161																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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ROT		REAL	SIMPLE	420/S	421	422				
RSDIST	RCNTRL	REAL	SIMPLE	173	391					
RSURF	RADCOM	REAL	ARRAY	367						
SO	RADCOM	REAL	SIMPLE	365	391/S					
SDAY	RCNTRL	REAL	SIMPLE	174	380	390	387	420		
SEASON	RCNTRL	REAL	SIMPLE	175						
SG	RADCOM	REAL	ARRAY	366						
SGNP	RDPARM	REAL	ARRAY	233						
SH	QANDQT	REAL	ARRAY	324	333					
SHG	RADCOM	REAL	ARRAY	345						
SHL	RADCOM	REAL	ARRAY	344						
SHLE	RADCOM	REAL	ARRAY	344						
SHLTOP	CNTRL	REAL	SIMPLE	271						
SHS	QANDQT	REAL	ARRAY	290	308					
SHSAT	RADCOM	REAL	ARRAY	346						
SIG	RDPARM	REAL	ARRAY	240	394	394	394	395	395	395
SIGE	RCNTRL	REAL	ARRAY	176	394	395				
SIND	RCNTRL	REAL	SIMPLE	177						
SINL	RDPARM	REAL	ARRAY	234						
SINLON	RDPARM	REAL	ARRAY	235						
SINROT	CNTRL	REAL	SIMPLE	272	422/S					
SMTH	QANDQT	REAL	ARRAY	285	303					
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125					
SNODEC		REAL	SIMPLE	423/S	424	425				
SNOW	RADCOM	LOGICAL	ARRAY	369	370					
SNOWN	CNTRL	REAL	SIMPLE	273	424/S					
SNOWS	CNTRL	REAL	SIMPLE	274	425/S					
SOLS	RCNTRL	REAL	SIMPLE	178						
SP	RADCOM	REAL	ARRAY	366						
SRS	RADCOM	REAL	ARRAY	357						
SSS	RADCOM	REAL	ARRAY	348						
SSSE	RADCOM	REAL	ARRAY	348						
START	LDPARM	LOGICAL	SIMPLE	202	205					
STBO	CNTRL	REAL	SIMPLE	275						
STERP1	CNTRL	REAL	SIMPLE	276	394/S					
STERP2	CNTRL	REAL	SIMPLE	277	395/S					
STN	RADCOM	REAL	ARRAY	357						
SWALE	RADCOM	REAL	ARRAY	353						
SWIL	RADCOM	REAL	ARRAY	353						
T	QANDQT	REAL	ARRAY	323	332					
TAUL	RADCOM	REAL	ARRAY	355						
TCOND	RADCOM	REAL	ARRAY	358						
TG	RADCOM	REAL	ARRAY	343						
TH	RADCOM	REAL	ARRAY	343						
THSTD	RDPARM	REAL	SIMPLE	236						
THSTD2	RDPARM	REAL	SIMPLE	237						
TICE	CNTRL	REAL	SIMPLE	278	389	404				
TL	RADCOM	REAL	ARRAY	342						
TLE	RADCOM	REAL	ARRAY	342						
TLOWL	RADCOM	REAL	SIMPLE	359						
TLTOP	CNTRL	REAL	SIMPLE	279						
TMAX	QANDQT	REAL	ARRAY	293	311					
TMIDL	RADCOM	REAL	SIMPLE	359						
TMIN	QANDQT	REAL	ARRAY	292	310					
TN	RADCOM	REAL	ARRAY	357						
TOPABS	RADCOM	REAL	ARRAY	356						
TOTOZ	RADCOM	REAL	ARRAY	363						
TPENE	RADCOM	REAL	ARRAY	358						
TS	QANDQT	REAL	ARRAY	289	307					
TSTD	RCNTRL	REAL	SIMPLE	179						
U	QANDQT	REAL	ARRAY	321	330					
V	QANDQT	REAL	ARRAY	322	331					
VER	CCNTRL	CHAR*8	SIMPLE	10	23					
WET	RADCOM	REAL	ARRAY	364						
WI	RADCOM	REAL	ARRAY	364						
WSAVE	RDPARM	REAL	ARRAY	238						
XDAY	CNTRL	REAL	SIMPLE	280	426/S					
XK	RADCOM	REAL	ARRAY	360						
XLABEL	CNTRL	CHAR*8	ARRAY	11	24					
ZLNCO	CNTRL	REAL	SIMPLE	281	396/S					

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PROCEDURE MAP

--NAME-----	TYPE-----	CLASS-----	REFERENCES	D=STMT FN DEF, A=ARGLIST
COS	REAL	INTRINSIC	421	423
FLOAT	REAL	INTRINSIC	426	
MODHMS	INTEGER	FUNCTION	376	378 419
SIN	REAL	INTRINSIC	422	
SQRT	REAL	INTRINSIC	389	

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00001

SUBROUTINE COPYQ (N1, N2, J)

C	PURPOSE	SCOPYQ	2
C	UTILITY SUBROUTINE TO COPY 4TH-ORDER MODEL VALUES.	SCOPYQ	3
C	COPIES DIFFERENTIAL FIELDS ONTO BASE FIELDS FOR	SCOPYQ	4
C	MATSUNO PREDICTOR STEP.	SCOPYQ	5
C	CALLED BY MAIN (GWSGCM) AND COMPO	SCOPYQ	6
C		SCOPYQ	7
C		SCOPYQ	8
C		SCOPYQ	9
C	USAGE	SCOPYQ	10
C		SCOPYQ	11
C	ARGUMENTS DESCRIPTION	SCOPYQ	12
C	N1 TIME STEP POINTER TO WHICH TO COPY VALUES	SCOPYQ	13
C	N2 TIME STEP POINTER FROM WHICH TO COPY VALUES	SCOPYQ	14
C	J LATITUDE GRID BAND	SCOPYQ	15
C		SCOPYQ	16
C	SUBPROGRAMS NEEDED	SCOPYQ	17
C	NAME DESCRIPTION	SCOPYQ	18
C	NONE	SCOPYQ	19
C		SCOPYQ	20
C	RECORD OF MODIFICATIONS	SCOPYQ	21
C	BASED ON OLD VERSION 8.	SCOPYQ	22
C		SCOPYQ	23
C	?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS?	SCOPYQ	24
C	05/04/83 RAMESH THIS PART AND COMMENTS	SCOPYQ	25
C		SCOPYQ	26
C	REMARKS:	SCOPYQ	27
C	(1) ?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.?	SCOPYQ	28
C		SCOPYQ	29
C		SCOPYQ	30
C	M / A - C O M S I G M A D A T A I N C N A S A - G S F C	SCOPYQ	31
C		SCOPYQ	32
C	CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL	2
C	=====	SCNTRL	3
C	COMMON /CCNTRL/ CCO	SCNTRL	4
00002	COMMON /CCNTRL/ ADATE	SCNTRL	5
00003	COMMON /CCNTRL/ ATIME	SCNTRL	6
00004	COMMON /CCNTRL/ JIC	SCNTRL	7
00005	COMMON /CCNTRL/ JOB	SCNTRL	8
00006	COMMON /CCNTRL/ CCSP06	SCNTRL	9
00007	COMMON /CCNTRL/ CCSP07	SCNTRL	10
00008	COMMON /CCNTRL/ CCSP08	SCNTRL	11
00009	COMMON /CCNTRL/ VER	SCNTRL	12
00010	COMMON /CCNTRL/ XLABEL (10)	SCNTRL	13
00011	COMMON /CCNTRL/ CQS (30)	SCNTRL	14
00012	COMMON /CCNTRL/ CQU (10)	SCNTRL	15
00013		SCNTRL	16
C	EQUIVALENCE {CC0,CC(1)}	SCNTRL	17
00014	CHARACTER*8 CCO, CC(200)	SCNTRL	18
00015	CHARACTER*8 ADATE	SCNTRL	19
00016	CHARACTER*8 ATIME	SCNTRL	20
00017	CHARACTER*8 JIC	SCNTRL	21
00018	CHARACTER*8 JOB	SCNTRL	22
00019	CHARACTER*8 CCSP06	SCNTRL	23
00020	CHARACTER*8 CCSP07	SCNTRL	24
00021	CHARACTER*8 CCSP08	SCNTRL	25
00022	CHARACTER*8 VER	SCNTRL	26
00023	CHARACTER*8 XLABEL	SCNTRL	27
00024		SCNTRL	28
C		SCNTRL	29
C	INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL	30
C	=====	SCNTRL	31
00025	COMMON /ICNTRL/ ICO	SCNTRL	32
00026	COMMON /ICNTRL/ IM	SCNTRL	33
00027	COMMON /ICNTRL/ IMD2	SCNTRL	34
00028	COMMON /ICNTRL/ IMD2P1	SCNTRL	35
00029	COMMON /ICNTRL/ NDRSW	SCNTRL	36
00030	COMMON /ICNTRL/ JM	SCNTRL	37
00031	COMMON /ICNTRL/ JMD2	SCNTRL	38
00032	COMMON /ICNTRL/ JMT2	SCNTRL	39
00033	COMMON /ICNTRL/ JNP	SCNTRL	40
00034	COMMON /ICNTRL/ JO4	SCNTRL	41

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00035	COMMON /ICNTRL/ JO8	SCNTRL 42
00036	COMMON /ICNTRL/ JSP	SCNTRL 43
00037	COMMON /ICNTRL/ KLIALB	SCNTRL 44
00038	COMMON /ICNTRL/ KLIGW	SCNTRL 45
00039	COMMON /ICNTRL/ KLISST	SCNTRL 46
00040	COMMON /ICNTRL/ KS	SCNTRL 47
00041	COMMON /ICNTRL/ KU	SCNTRL 48
00042	COMMON /ICNTRL/ LOGBR	SCNTRL 49
00043	COMMON /ICNTRL/ MATIN	SCNTRL 50
00044	COMMON /ICNTRL/ MATSNX	SCNTRL 51
00045	COMMON /ICNTRL/ MATSUN	SCNTRL 52
00046	COMMON /ICNTRL/ MLF (12)	SCNTRL 53
00047	COMMON /ICNTRL/ MROD	SCNTRL 54
00048	COMMON /ICNTRL/ NKRSH	SCNTRL 55
00049	COMMON /ICNTRL/ MSM	SCNTRL 56
00050	COMMON /ICNTRL/ NB	SCNTRL 57
00051	COMMON /ICNTRL/ ND	SCNTRL 58
00052	COMMON /ICNTRL/ NDALT	SCNTRL 59
00053	COMMON /ICNTRL/ NDAY	SCNTRL 60
00054	COMMON /ICNTRL/ NDOUT	SCNTRL 61
00055	COMMON /ICNTRL/ NDPHY	SCNTRL 62
00056	COMMON /ICNTRL/ NDSHF	SCNTRL 63
00057	COMMON /ICNTRL/ NDT	SCNTRL 64
00058	COMMON /ICNTRL/ NHMS	SCNTRL 65
00059	COMMON /ICNTRL/ NHMSE	SCNTRL 66
00060	COMMON /ICNTRL/ NHMSO	SCNTRL 67
00061	COMMON /ICNTRL/ NLAY	SCNTRL 68
00062	COMMON /ICNTRL/ NLAYM1	SCNTRL 69
00063	COMMON /ICNTRL/ NLAYP1	SCNTRL 70
00064	COMMON /ICNTRL/ NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
	C	SCNTRL 84
00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 85
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 86
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 87
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 88
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 89
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 91
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 92
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 93
00086	EQUIVALENCE (IICLOUD ,IQS(10))	SCNTRL 94
	C	SCNTRL 95
00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 96
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 97
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 98
	C	SCNTRL 99
00090	EQUIVALENCE (ICO ,IC(1))	SCNTRL 100
00091	INTEGER ICO , IC(200)	SCNTRL 101
	C	SCNTRL 102
	C	SCNTRL 103
	C	SCNTRL 104
	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL 105
	=====	SCNTRL 106
00092	COMMON /LCNTRL/ LCO	SCNTRL 107
00093	COMMON /LCNTRL/ QALT	SCNTRL 108
00094	COMMON /LCNTRL/ QBEG	SCNTRL 109
00095	COMMON /LCNTRL/ QDAY	SCNTRL 110
00096	COMMON /LCNTRL/ QEND	SCNTRL 111
00097	COMMON /LCNTRL/ QOUT	SCNTRL 112
00098	COMMON /LCNTRL/ QPHY	
00099	COMMON /LCNTRL/ QSHF	

00100 COMMON /LCNTRL/ SN2FLG
 00101 COMMON /LCNTRL/ QRSW
 00102 COMMON /LCNTRL/ QRSW
 00103 COMMON /LCNTRL/ LQS(30)
 00104 COMMON /LCNTRL/ LQU(10)

C

00105 EQUIVALENCE (LTMIN ,LQS(1))
 00106 EQUIVALENCE (LTMAX ,LQS(2))
 00107 EQUIVALENCE (LPREACC ,LQS(3))
 00108 EQUIVALENCE (LPRECON ,LQS(4))
 00109 EQUIVALENCE (LHFLUX ,LQS(5))
 00110 EQUIVALENCE (LEFLUX ,LQS(6))
 00111 EQUIVALENCE (LFUSION ,LQS(7))
 00112 EQUIVALENCE (LRADSWG ,LQS(8))
 00113 EQUIVALENCE (LRADLWG ,LQS(9))
 00114 EQUIVALENCE (LICLOUD ,LQS(10))

C

00115 EQUIVALENCE (LOMEGA ,LQU(1))
 00116 EQUIVALENCE (LDIABAT ,LQU(2))
 00117 EQUIVALENCE (LRADSW ,LQU(3))

C

00118 LOGICAL QALT
 00119 LOGICAL QBEG
 00120 LOGICAL QDAY
 00121 LOGICAL QEND
 00122 LOGICAL QOUT
 00123 LOGICAL QPHY
 00124 LOGICAL QSHF
 00125 LOGICAL SN2FLG
 00126 LOGICAL QRSW
 00127 LOGICAL QRSW

C

00128 LOGICAL LQS
 00129 LOGICAL LQU
 00130 LOGICAL LTMIN
 00131 LOGICAL LTMAX
 00132 LOGICAL LPREACC
 00133 LOGICAL LPRECON
 00134 LOGICAL LHFLUX
 00135 LOGICAL LEFLUX
 00136 LOGICAL LFUSION
 00137 LOGICAL LRADSWG
 00138 LOGICAL LRADLWG
 00139 LOGICAL LICLOUD

C

00140 LOGICAL LOMEGA
 00141 LOGICAL LDIABAT
 00142 LOGICAL LRADSW

C

00143 EQUIVALENCE (LC0,LC(1))
 00144 LOGICAL LC0, LC(200)

C

REAL MODEL PARAMETERS SAVED ON HISTORY RECORD

C

00145 COMMON /RCNTRL/ RCO
 00146 COMMON /RCNTRL/ APHEL
 00147 COMMON /RCNTRL/ BETA
 00148 COMMON /RCNTRL/ COSD
 00149 COMMON /RCNTRL/ CP
 00150 COMMON /RCNTRL/ DAYSPY
 00151 COMMON /RCNTRL/ DEC
 00152 COMMON /RCNTRL/ DECMAX
 00153 COMMON /RCNTRL/ DIST
 00154 COMMON /RCNTRL/ DLAT
 00155 COMMON /RCNTRL/ DLON
 00156 COMMON /RCNTRL/ DT
 00157 COMMON /RCNTRL/ ECCN
 00158 COMMON /RCNTRL/ GNU1
 00159 COMMON /RCNTRL/ GNU2
 00160 COMMON /RCNTRL/ GRAV
 00161 COMMON /RCNTRL/ OMEGA2

SCNTRL 113
 SCNTRL 114
 SCNTRL 115
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00162 COMMON /RCNTRL/ PI
00163 COMMON /RCNTRL/ PI180
00164 COMMON /RCNTRL/ PI2
00165 COMMON /RCNTRL/ PSTD
00166 COMMON /RCNTRL/ PIMEAN
00167 COMMON /RCNTRL/ PSMAX
00168 COMMON /RCNTRL/ PSMIN
00169 COMMON /RCNTRL/ PTOP
00170 COMMON /RCNTRL/ RADE
00171 COMMON /RCNTRL/ RGAS
00172 COMMON /RCNTRL/ ROCP
00173 COMMON /RCNTRL/ RSDIST
00174 COMMON /RCNTRL/ SDAY
00175 COMMON /RCNTRL/ SEASON
00176 COMMON /RCNTRL/ SIGE (25)
00177 COMMON /RCNTRL/ SIND
00178 COMMON /RCNTRL/ SOLS
00179 COMMON /RCNTRL/ TSTD
00180 COMMON /RCNTRL/ PLEVS (25)
00181 COMMON /RCNTRL/ HEATW
00182 COMMON /RCNTRL/ HEATI
00183 COMMON /RCNTRL/ EPS
00184 COMMON /RCNTRL/ EPSFAC
00185 COMMON /RCNTRL/ CALTOJ
00186 COMMON /RCNTRL/ PZERO

C EQUIVALENCE (RC0,RC(1))
00187 REAL RC0, RC(200)
00188

C INTEGER MODEL CONSTANTS
C =====
00189 COMMON /IDPARM/ IJUMP (46)
00190 COMMON /IDPARM/ IDSP02
00191 COMMON /IDPARM/ INDEX (72)
00192 COMMON /IDPARM/ IROD
00193 COMMON /IDPARM/ JC (46)
00194 COMMON /IDPARM/ JE (2)
00195 COMMON /IDPARM/ JP (2,2)
00196 COMMON /IDPARM/ KSTEP
00197 COMMON /IDPARM/ MJ (46)
00198 COMMON /IDPARM/ NHMS1
00199 COMMON /IDPARM/ NYMD1

C LOGICAL MODEL CONSTANTS
C =====
00200 COMMON /LDPARM/ FILTER (46)
00201 COMMON /LDPARM/ ITAPE
00202 COMMON /LDPARM/ START

C LOGICAL FILTER
00203 LOGICAL ITAPE
00204 LOGICAL START
00205

C REAL MODEL CONSTANTS
C =====
00206 COMMON /RDPARM/ ADLDP
00207 COMMON /RDPARM/ CON1
00208 COMMON /RDPARM/ CON1DT
00209 COMMON /RDPARM/ CON2
00210 COMMON /RDPARM/ CON2DT
00211 COMMON /RDPARM/ CON3
00212 COMMON /RDPARM/ CON3DT
00213 COMMON /RDPARM/ CON4
00214 COMMON /RDPARM/ CON4DT
00215 COMMON /RDPARM/ CON5
00216 COMMON /RDPARM/ COSL (46)
00217 COMMON /RDPARM/ COSLON (72)
00218 COMMON /RDPARM/ CPD2
00219 COMMON /RDPARM/ DXP (46)
00220 COMMON /RDPARM/ DXYP (46)
00221 COMMON /RDPARM/ DYP (46)

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00222 COMMON /RDPARM/ FCORLS (46)
00223 COMMON /RDPARM/ F1DT
00224 COMMON /RDPARM/ F2DT
00225 COMMON /RDPARM/ H1DT
00226 COMMON /RDPARM/ H2DT
00227 COMMON /RDPARM/ PKSTD
00228 COMMON /RDPARM/ PKTOP
00229 COMMON /RDPARM/ RLAT (46)
00230 COMMON /RDPARM/ RLATD (46)
00231 COMMON /RDPARM/ ROCPTD
00232 COMMON /RDPARM/ ROCPPI
00233 COMMON /RDPARM/ SGNP (2)
00234 COMMON /RDPARM/ CINL (46)
00235 COMMON /RDPARM/ SINLON (72)
00236 COMMON /RDPARM/ THSTD
00237 COMMON /RDPARM/ THSTD2
00238 COMMON /RDPARM/ WSAVE (159)
00239 COMMON /RDPARM/ DSIG (9)
00240 COMMON /RDPARM/ SIG (9)

C
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GLOBAL MODEL SURFACE FIELDS
COMMON /QANDQT/ QS(72,19,46)

00241
00242 DIMENSION PHIS(1368,1)
00243 DIMENSION SMTH(1368,23)
00244 DIMENSION ALBEDO(1368,1)
00245 DIMENSION GT(1368,1)
00246 DIMENSION GW(1368,1)
00247 DIMENSION TS(1368,1)
00248 DIMENSION SHS(1368,1)
00249 DIMENSION P(72,19,1)
00250 DIMENSION TMIN(1368,1)
00251 DIMENSION TMAX(1368,1)
00252 DIMENSION PREACC(1368,1)
00253 DIMENSION PRECON(1368,1)
00254 DIMENSION HFLUX(1368,1)
00255 DIMENSION EFLUX(1368,1)
00256 DIMENSION FUSION(1368,1)
00257 DIMENSION RADSWG(1368,1)
00258 DIMENSION RADLWG(1368,1)
00259 DIMENSION ICLOUD(1368,1)

C

00260 EQUIVALENCE (QS(1,1,1),PHIS(1,1))
00261 EQUIVALENCE (QS(1,2,1),SMTH(1,1))
00262 EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))
00263 EQUIVALENCE (QS(1,4,1),GT(1,1))
00264 EQUIVALENCE (QS(1,5,1),GW(1,1))
00265 EQUIVALENCE (QS(1,6,1),TS(1,1))
00266 EQUIVALENCE (QS(1,7,1),SHS(1,1))
00267 EQUIVALENCE (QS(1,8,1),P(1,1,1))
00268 EQUIVALENCE (QS(1,10,1),TMIN(1,1))
00269 EQUIVALENCE (QS(1,11,1),TMAX(1,1))
00270 EQUIVALENCE (QS(1,12,1),PREACC(1,1))
00271 EQUIVALENCE (QS(1,13,1),PRECON(1,1))
00272 EQUIVALENCE (QS(1,14,1),HFLUX(1,1))
00273 EQUIVALENCE (QS(1,15,1),EFLUX(1,1))
00274 EQUIVALENCE (QS(1,16,1),FUSION(1,1))
00275 EQUIVALENCE (QS(1,17,1),RADSWG(1,1))
00276 EQUIVALENCE (QS(1,18,1),RADLWG(1,1))
00277 EQUIVALENCE (QS(1,19,1),ICLOUD(1,1))

C

GLOBAL MODEL UPPER-AIR FIELDS
COMMON /QANDQT/ QU(72,9,14,46)

00278
00279 DIMENSION U(72,9,14,1)
00280 DIMENSION V(72,9,14,1)
00281 DIMENSION T(72,9,14,1)
00282 DIMENSION SH(72,9,14,1)
00283 DIMENSION PHI(72,9,14,1)
00284 DIMENSION OMEGA(72,126,1)

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SQANDQT 51
SQANDQT 52

10000	303		
50	313	305	
60	316	314	
70	323	317	318

VARIABLE MAP

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VARIABLE MAP
--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

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A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

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I		INTEGER	SIMPLE	314/C	315	315	318/C	319	319	320	320	321	321	322
IC	ICNTRL	INTEGER	ARRAY	322	91									
ICG	ICNTRL	INTEGER	SIMPLE	90	90	91								
ICLOUD	QANDQT	INTEGER	ARRAY	253	277									
ICNTRL		INTEGER	UNKNOWN	25	26	27	28	29	30	31	32	33	34	35
				36	37	38	39	40	41	42	43	44	45	46
				47	48	49	50	51	52	53	54	55	56	57
				53	55	60	61	62	63	64	65	66	67	68
				69	70	71	72	73	74	75	76			
ICSP53	ICNTRL	INTEGER	SIMPLE	65										
ICSP55	ICNTRL	INTEGER	SIMPLE	68										
IDIABAT	ICNTRL	INTEGER	UNKNOWN	88										
IDPARM		INTEGER	UNKNOWN	189	190	191	192	193	194	195	196	197	198	199
IDSP02	IDPARM	INTEGER	SIMPLE	190										
IEFLUX	ICNTRL	INTEGER	UNKNOWN	82										
IFUSION	ICNTRL	INTEGER	UNKNOWN	83										
IHFLUX	ICNTRL	INTEGER	UNKNOWN	81										
IICLOUD	ICNTRL	INTEGER	UNKNOWN	86										
IJUMP	IDPARM	INTEGER	ARRAY	189										
IM	ICNTRL	INTEGER	SIMPLE	26	314	318								
IMD2	ICNTRL	INTEGER	SIMPLE	27										
IMD2P1	ICNTRL	INTEGER	SIMPLE	28										
INDEX	IDPARM	INTEGER	ARRAY	191										
IONEGA	ICNTRL	INTEGER	UNKNOWN	87										
IPREACC	ICNTRL	INTEGER	UNKNOWN	79										
IPRECON	ICNTRL	INTEGER	UNKNOWN	80										
IQS	ICNTRL	INTEGER	ARRAY	75	77	78	79	80	81	82	83	84	85	86
IQU	ICNTRL	INTEGER	ARRAY	76	87	88	89							
IRADLWG	ICNTRL	INTEGER	UNKNOWN	85										
IRADSW	ICNTRL	INTEGER	UNKNOWN	89										
IRADSWG	ICNTRL	INTEGER	UNKNOWN	84										
IROD	IDPARM	INTEGER	SIMPLE	192										
ITAPE	IDPARM	LOGICAL	SIMPLE	201	204									
ITMAX	ICNTRL	INTEGER	UNKNOWN	78										
ITMIN	ICNTRL	INTEGER	UNKNOWN	77										
J		INTEGER	SIMPLE	1	304	315	315	319	319	320	320	321	321	322
JC	IDPARM	INTEGER	ARRAY	193										
JE	IDPARM	INTEGER	ARRAY	194										
JIC	QCNTRL	CHAR*8	SIMPLE	5	18									
JM	ICNTRL	INTEGER	SIMPLE	30										
JMD2	ICNTRL	INTEGER	SIMPLE	31										
JMT2	ICNTRL	INTEGER	SIMPLE	32										
JNP	ICNTRL	INTEGER	SIMPLE	33										
JO4	ICNTRL	INTEGER	SIMPLE	34										
JO8	ICNTRL	INTEGER	SIMPLE	35										
JO8	QCNTRL	CHAR*8	SIMPLE	6	19									
JP	IDPARM	INTEGER	ARRAY	195										
JSP	ICNTRL	INTEGER	SIMPLE	36										
KLIALB	ICNTRL	INTEGER	SIMPLE	37										
KLIGW	ICNTRL	INTEGER	SIMPLE	38										
KLISST	ICNTRL	INTEGER	SIMPLE	39										
KS	ICNTRL	INTEGER	SIMPLE	40										
KSTEP	IDPARM	INTEGER	SIMPLE	196										
KU	ICNTRL	INTEGER	SIMPLE	41										
L		INTEGER	SIMPLE	307/C	308	308	309	309	310	310	311	311	317/C	319
LC	LONTRL	LOGICAL	ARRAY	319	320	320	321	321	322	322				
LCO	LONTRL	LOGICAL	SIMPLE	143	144									
LONTRL		INTEGER	UNKNOWN	92	143	144								
				92	93	94	95	96	97	98	99	100	101	102
				103	104									
LDIABAT	LONTRL	LOGICAL	UNKNOWN	115	141									
LDPARM		INTEGER	UNKNOWN	200	201	202								
LEFLUX	LONTRL	LOGICAL	UNKNOWN	110	135									
LFUSION	LONTRL	LOGICAL	UNKNOWN	111	136									
LHFLUX	LONTRL	LOGICAL	UNKNOWN	109	134									
LICLOUD	LONTRL	LOGICAL	UNKNOWN	114	139									
LOGBR	LONTRL	INTEGER	SIMPLE	42										
LOMEGA	LONTRL	LOGICAL	UNKNOWN	115	140									

LPREACC	LCNTRL	LOGICAL	UNKNOWN	107	132									
LPRECON	LCNTRL	LOGICAL	UNKNOWN	108	133									
LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114
				128										
LQU	LCNTRL	LOGICAL	ARRAY	104	115	116	117	129						
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138									
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	142									
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	112	137									
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131									
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130									
M		INTEGER	SIMPLE	304/S	305	306	306	308	308	309	309	310	310	311
				311										
MATIN	ICNTRL	INTEGER	SIMPLE	43										
MATSNX	ICNTRL	INTEGER	SIMPLE	44										
MATSUN	ICNTRL	INTEGER	SIMPLE	45										
MJ	IDPARM	INTEGER	ARRAY	197	304									
MLF	ICNTRL	INTEGER	ARRAY	46										
MROD	ICNTRL	INTEGER	SIMPLE	47										
MSM	ICNTRL	INTEGER	SIMPLE	49										
N1		INTEGER	SIMPLE	1	306	308	309	310	311	315	319	320	321	322
N2		INTEGER	SIMPLE	1	306	308	309	310	311	315	319	320	321	322
NB	ICNTRL	INTEGER	SIMPLE	50										
ND	ICNTRL	INTEGER	SIMPLE	51										
NDALT	ICNTRL	INTEGER	SIMPLE	52										
NDAY	ICNTRL	INTEGER	SIMPLE	53										
NDHOG	ICNTRL	INTEGER	SIMPLE	74										
NDOUT	ICNTRL	INTEGER	SIMPLE	54										
NDPHY	ICNTRL	INTEGER	SIMPLE	55										
NDRSW	ICNTRL	INTEGER	SIMPLE	29										
NDSHF	ICNTRL	INTEGER	SIMPLE	56										
NDT	ICNTRL	INTEGER	SIMPLE	57										
NHMS	ICNTRL	INTEGER	SIMPLE	58										
NHMS0	ICNTRL	INTEGER	SIMPLE	60										
NHMS1	IDPARM	INTEGER	SIMPLE	198										
NHMSE	ICNTRL	INTEGER	SIMPLE	59										
NKRSH	ICNTRL	INTEGER	SIMPLE	48										
NLAY	ICNTRL	INTEGER	SIMPLE	61	307	317								
NLAYM1	ICNTRL	INTEGER	SIMPLE	62										
NLAYP1	ICNTRL	INTEGER	SIMPLE	63										
NMLEV	ICNTRL	INTEGER	SIMPLE	73										
NSDAY	ICNTRL	INTEGER	SIMPLE	64										
NSEQ	ICNTRL	INTEGER	SIMPLE	65										
NSTEP	ICNTRL	INTEGER	SIMPLE	67										
NYMD	ICNTRL	INTEGER	SIMPLE	69										
NYMD0	ICNTRL	INTEGER	SIMPLE	71										
NYMD1	IDPARM	INTEGER	SIMPLE	199										
NYMDE	ICNTRL	INTEGER	SIMPLE	70										
NZINIT	ICNTRL	INTEGER	SIMPLE	72										
OMEGA	QANDQT	REAL	ARRAY	284	293									
OMEGA2	RCNTRL	REAL	SIMPLE	161										
P	QANDQT	REAL	ARRAY	249	267	315/S	315							
PHI	QANDQT	REAL	ARRAY	283	292									
PHIP	QPOLES	REAL	ARRAY	302										
PHIS	QANDQT	REAL	ARRAY	242	260									
PI	RCNTRL	REAL	SIMPLE	162										
PI180	RCNTRL	REAL	SIMPLE	163										
PI2	RCNTRL	REAL	SIMPLE	164										
PIMEAN	RCNTRL	REAL	SIMPLE	166										
PKSTD	RDPARM	REAL	SIMPLE	227										
PKTOP	RDPARM	REAL	SIMPLE	228										
PLEVS	RCNTRL	REAL	ARRAY	180										
PP	QPOLES	REAL	ARRAY	297	306/S	306								
PREACC	QANDQT	REAL	ARRAY	252	270									
PRECON	QANDQT	REAL	ARRAY	253	271									
PSMAX	RCNTRL	REAL	SIMPLE	167										
PSMIN	RCNTRL	REAL	SIMPLE	168										
PSTD	RCNTRL	REAL	SIMPLE	165										
PTOP	RCNTRL	REAL	SIMPLE	169										
PZERO	RCNTRL	REAL	SIMPLE	186										
QALT	LCNTRL	LOGICAL	SIMPLE	93	118									

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QANDQT		REAL	UNKNOWN	241	278									
QBEG	LCNTRL	LOGICAL	SIMPLE	94	119									
QDAY	LCNTRL	LOGICAL	SIMPLE	95	120									
QEND	LCNTRL	LOGICAL	SIMPLE	96	121									
QOUT	LCNTRL	LOGICAL	SIMPLE	97	122									
QPHY	LCNTRL	LOGICAL	SIMPLE	98	123									
QPOLES		REAL	UNKNOWN	297	298	299	300	301	302					
QRSH	LCNTRL	LOGICAL	SIMPLE	102	127									
QRSW	LCNTRL	LOGICAL	SIMPLE	101	126									
QS	QANDQT	REAL	ARRAY	241	260	261	262	263	264	265	266	267	268	269
				270	271	272	273	274	275	276	277			
QSHF	LCNTRL	LOGICAL	SIMPLE	99	124									
QU	QANDQT	REAL	ARRAY	278	288	289	290	291	292	293	294	295	296	
RADE	RCNTRL	REAL	SIMPLE	170										
RADLW	QANDQT	REAL	ARRAY	287	296									
RADLWG	QANDQT	REAL	ARRAY	258	276									
RADSW	QANDQT	REAL	ARRAY	286	295									
RADSWG	QANDQT	REAL	ARRAY	257	275									
RC	RCNTRL	REAL	ARRAY	187	188									
RCO	RCNTRL	REAL	SIMPLE	145	187	188								
RCNTRL		REAL	UNKNOWN	145	146	147	148	149	150	151	152	153	154	155
				156	157	158	159	160	161	162	163	164	165	166
				167	168	169	170	171	172	173	174	175	176	177
				178	179	180	181	182	183	184	185	186	187	188
RDPARM		REAL	UNKNOWN	206	207	208	209	210	211	212	213	214	215	216
				217	218	219	220	221	222	223	224	225	226	227
				228	229	230	231	232	233	234	235	236	237	238
				239	240									
RGAS	RCNTRL	REAL	SIMPLE	171										
RLAT	RDPARM	REAL	ARRAY	229										
RLATD	RDPARM	REAL	ARRAY	230										
ROCP	RCNTRL	REAL	SIMPLE	172										
ROCPDT	RDPARM	REAL	SIMPLE	231										
ROCPP1	RDPARM	REAL	SIMPLE	232										
RSDIST	RCNTRL	REAL	SIMPLE	173										
SDAY	RCNTRL	REAL	SIMPLE	174										
SEASON	RCNTRL	REAL	SIMPLE	175										
SGNP	RDPARM	REAL	ARRAY	233										
SH	QANDQT	REAL	ARRAY	282	291	322/S	322							
SHP	QPOLES	REAL	ARRAY	301	311/S	311								
SHS	QANDQT	REAL	ARRAY	248	266									
SIG	RDPARM	REAL	ARRAY	240										
SIGE	RCNTRL	REAL	ARRAY	176										
SIND	RCNTRL	REAL	SIMPLE	177										
SINL	RDPARM	REAL	ARRAY	234										
SINLON	RDPARM	REAL	ARRAY	235										
SMTH	QANDQT	REAL	ARRAY	243	261									
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125									
SOLS	RCNTRL	REAL	SIMPLE	178										
START	LDPARM	LOGICAL	SIMPLE	202	205									
T	QANDQT	REAL	ARRAY	281	290	321/S	321							
THSTD	RDPARM	REAL	SIMPLE	236										
THSTD2	RDPARM	REAL	SIMPLE	237										
TMAX	QANDQT	REAL	ARRAY	251	269									
TMIN	QANDQT	REAL	ARRAY	250	268									
TP	QPOLES	REAL	ARRAY	300	310/S	310								
TS	QANDQT	REAL	ARRAY	247	265									
TSTD	RCNTRL	REAL	SIMPLE	179										
U	QANDQT	REAL	ARRAY	279	288	319/S	319							
UP	QPOLES	REAL	ARRAY	298	308/S	308								
V	QANDQT	REAL	ARRAY	280	289	320/S	320							
VER	CCNTRL	CHAR*8	SIMPLE	10	23									
VP	QPOLES	REAL	ARRAY	299	309/S	309								
WSAVE	RDPARM	REAL	ARRAY	238										
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24									

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00001 SUBROUTINE CUMULO (J)
C
C
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
=====
00002 COMMON /CCNTRL/ CCO
00003 COMMON /CCNTRL/ ADATE
00004 COMMON /CCNTRL/ ATIME
00005 COMMON /CCNTRL/ JIC
00006 COMMON /CCNTRL/ JOB
00007 COMMON /CCNTRL/ CCSP06
00008 COMMON /CCNTRL/ CCSP07
00009 COMMON /CCNTRL/ CCSP08
00010 COMMON /CCNTRL/ VER
00011 COMMON /CCNTRL/ XLABEL (10)
00012 COMMON /CCNTRL/ CQS (30)
00013 COMMON /CCNTRL/ CQU (10)
C
00014 EQUIVALENCE (CCO,CC(1))
00015 CHARACTER*8 CCO, CC(200)
00016 CHARACTER*8 ADATE
00017 CHARACTER*8 ATIME
00018 CHARACTER*8 JIC
00019 CHARACTER*8 JOB
00020 CHARACTER*8 CCSP06
00021 CHARACTER*8 CCSP07
00022 CHARACTER*8 CCSP08
00023 CHARACTER*8 VER
00024 CHARACTER*8 XLABEL
C
C
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
=====
00025 COMMON /ICNTRL/ ICO
00026 COMMON /ICNTRL/ IM
00027 COMMON /ICNTRL/ IMD2
00028 COMMON /ICNTRL/ IMD2P1
00029 COMMON /ICNTRL/ NDRSW
00030 COMMON /ICNTRL/ JM
00031 COMMON /ICNTRL/ JMD2
00032 COMMON /ICNTRL/ JMT2
00033 COMMON /ICNTRL/ JNP
00034 COMMON /ICNTRL/ JO4
00035 COMMON /ICNTRL/ JOB
00036 COMMON /ICNTRL/ JSP
00037 COMMON /ICNTRL/ KLIALB
00038 COMMON /ICNTRL/ KLIGW
00039 COMMON /ICNTRL/ KLISST
00040 COMMON /ICNTRL/ KS
00041 COMMON /ICNTRL/ KU
00042 COMMON /ICNTRL/ LOGBR
00043 COMMON /ICNTRL/ MATIN
00044 COMMON /ICNTRL/ MATSNX
00045 COMMON /ICNTRL/ MATSUN
00046 COMMON /ICNTRL/ MLF (12)
00047 COMMON /ICNTRL/ MR0D
00048 COMMON /ICNTRL/ NKRSR
00049 COMMON /ICNTRL/ MSM
00050 COMMON /ICNTRL/ NB
00051 COMMON /ICNTRL/ ND
00052 COMMON /ICNTRL/ NDALT
00053 COMMON /ICNTRL/ NDAY
00054 COMMON /ICNTRL/ NDOUT
00055 COMMON /ICNTRL/ NDPHY
00056 COMMON /ICNTRL/ NDSHF
00057 COMMON /ICNTRL/ NDT
00058 COMMON /ICNTRL/ NHMS
00059 COMMON /ICNTRL/ NHMSE
00060 COMMON /ICNTRL/ NHMSO
00061 COMMON /ICNTRL/ NLAY
00062 COMMON /ICNTRL/ NLAYM1
00063 COMMON /ICNTRL/ NLAYP1

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00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 89
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 91
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00107	EQUIVALENCE (LPREACC ,LQS(3))	SCNTRL 123
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00117	EQUIVALENCE (LRADSW ,LQU(3))	SCNTRL 134
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00129	LOGICAL	LQU	SCNTRL 146
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00139	LOGICAL	LICLOUD	SCNTRL 156
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00140	LOGICAL	LOMEGA	SCNTRL 158
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00153	COMMON /RCNTRL/	DIST	SCNTRL 175
00154	COMMON /RCNTRL/	DLAT	SCNTRL 176
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00157	COMMON /RCNTRL/	ECCN	SCNTRL 179
00158	COMMON /RCNTRL/	GNU1	SCNTRL 180
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00164	COMMON /RCNTRL/	PI2	SCNTRL 186
00165	COMMON /RCNTRL/	PSTD	SCNTRL 187
00166	COMMON /RCNTRL/	PIMEAN	SCNTRL 188
00167	COMMON /RCNTRL/	PSMAX	SCNTRL 189
00168	COMMON /RCNTRL/	PSMIN	SCNTRL 190
00169	COMMON /RCNTRL/	PTOP	SCNTRL 191
00170	COMMON /RCNTRL/	RADE	SCNTRL 192
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00172	COMMON /RCNTRL/	ROCP	SCNTRL 194
00173	COMMON /RCNTRL/	RSDIST	SCNTRL 195
00174	COMMON /RCNTRL/	SDAY	SCNTRL 196
00175	COMMON /RCNTRL/	SEASON	SCNTRL 197
00176	COMMON /RCNTRL/	SIGE (25)	SCNTRL 198
00177	COMMON /RCNTRL/	SIND	SCNTRL 199
00178	COMMON /RCNTRL/	SOLS	SCNTRL 200
00179	COMMON /RCNTRL/	TSTD	SCNTRL 201
00180	COMMON /RCNTRL/	PLEVS (25)	SCNTRL 202
00181	COMMON /RCNTRL/	HEATW	SCNTRL 203
00182	COMMON /RCNTRL/	HEATI	SCNTRL 204
00183	COMMON /RCNTRL/	EPS	SCNTRL 205
00184	COMMON /RCNTRL/	EPSFAC	SCNTRL 206
00185	COMMON /RCNTRL/	CALTOJ	SCNTRL 207
00186	COMMON /RCNTRL/	PZERO	SCNTRL 208
	C		SCNTRL 209
00187	EQUIVALENCE	(RC0,RC(1))	SCNTRL 210
00188	REAL	RC0, RC(200)	SCNTRL 211
	C		SCNTRL 212

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C INTEGER MODEL CONSTANTS
C =====
00189 COMMON /IDPARM/ IJUMP (46)
00190 COMMON /IDPARM/ IDSP02
00191 COMMON /IDPARM/ INDEX (72)
00192 COMMON /IDPARM/ IROD
00193 COMMON /IDPARM/ JC (46)
00194 COMMON /IDPARM/ JE (2)
00195 COMMON /IDPARM/ JP (2,2)
00196 COMMON /IDPARM/ KSTEP
00197 COMMON /IDPARM/ MJ (46)
00198 COMMON /IDPARM/ NHMS1
00199 COMMON /IDPARM/ NYMD1

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C LOGICAL MODEL CONSTANTS
C =====
00200 COMMON /LDPARM/ FILTER (46)
00201 COMMON /LDPARM/ ITAPE
00202 COMMON /LDPARM/ START

C LOGICAL FILTER
00203 LOGICAL FILTER
00204 LOGICAL ITAPE
00205 LOGICAL START

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C REAL MODEL CONSTANTS
C =====
00206 COMMON /RDPARM/ ADLDP
00207 COMMON /RDPARM/ CON1
00208 COMMON /RDPARM/ CON1DT
00209 COMMON /RDPARM/ CON2
00210 COMMON /RDPARM/ CON2DT
00211 COMMON /RDPARM/ CON3
00212 COMMON /RDPARM/ CON3DT
00213 COMMON /RDPARM/ CON4
00214 COMMON /RDPARM/ CON4DT
00215 COMMON /RDPARM/ CONS
00216 COMMON /RDPARM/ COSL (46)
00217 COMMON /RDPARM/ COSLON (72)
00218 COMMON /RDPARM/ CPD2
00219 COMMON /RDPARM/ DXP (46)
00220 COMMON /RDPARM/ DXP (46)
00221 COMMON /RDPARM/ DYP (46)
00222 COMMON /RDPARM/ FCORLS (46)
00223 COMMON /RDPARM/ F1DT
00224 COMMON /RDPARM/ F2DT
00225 COMMON /RDPARM/ H1DT
00226 COMMON /RDPARM/ H2DT
00227 COMMON /RDPARM/ PKSTD
00228 COMMON /RDPARM/ PKTOP
00229 COMMON /RDPARM/ RLAT (46)
00230 COMMON /RDPARM/ RLATD (46)
00231 COMMON /RDPARM/ ROCPDT
00232 COMMON /RDPARM/ ROCP1
00233 COMMON /RDPARM/ SGNP (2)
00234 COMMON /RDPARM/ SINL (46)
00235 COMMON /RDPARM/ SINLON (72)
00236 COMMON /RDPARM/ THSTD
00237 COMMON /RDPARM/ THSTD2
00238 COMMON /RDPARM/ WSAVE (159)
00239 COMMON /RDPARM/ DSIG (9)
00240 COMMON /RDPARM/ SIG (9)

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C ***
C GLOBAL MODEL SURFACE FIELDS
C
00241 COMMON /QANDQT/ QS(72,19,46)

C DIMENSION
00242 DIMENSION PHIS(1368,1)
00243 DIMENSION SMTH(1368,23)
00244 DIMENSION ALBEDO(1368,1)
00245 DIMENSION GT(1368,1)
00246 DIMENSION GW(1368,1)

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00247    DIMENSION    TS(1368,1)
00248    DIMENSION    SHS(1368,1)
00249    DIMENSION    P(72,19,1)
00250    DIMENSION    TMIN(1368,1)
00251    DIMENSION    TMAX(1368,1)
00252    DIMENSION    PREACC(1368,1)
00253    DIMENSION    PRECON(1368,1)
00254    DIMENSION    HFLUX(1368,1)
00255    DIMENSION    EFLUX(1368,1)
00256    DIMENSION    FUSION(1368,1)
00257    DIMENSION    RADSWG(1368,1)
00258    DIMENSION    RADLWG(1368,1)
00259    DIMENSION    ICLOUD(1368,1)

C
00260    EQUIVALENCE    (QS(1,1,1),PHIS(1,1))
00261    EQUIVALENCE    (QS(1,2,1),SMTH(1,1))
00262    EQUIVALENCE    (QS(1,3,1),ALBEDO(1,1))
00263    EQUIVALENCE    (QS(1,4,1),GT(1,1))
00264    EQUIVALENCE    (QS(1,5,1),GW(1,1))
00265    EQUIVALENCE    (QS(1,6,1),TS(1,1))
00266    EQUIVALENCE    (QS(1,7,1),SHS(1,1))
00267    EQUIVALENCE    (QS(1,8,1),P(1,1,1))
00268    EQUIVALENCE    (QS(1,10,1),TMIN(1,1))
00269    EQUIVALENCE    (QS(1,11,1),TMAX(1,1))
00270    EQUIVALENCE    (QS(1,12,1),PREACC(1,1))
00271    EQUIVALENCE    (QS(1,13,1),PRECON(1,1))
00272    EQUIVALENCE    (QS(1,14,1),HFLUX(1,1))
00273    EQUIVALENCE    (QS(1,15,1),EFLUX(1,1))
00274    EQUIVALENCE    (QS(1,16,1),FUSION(1,1))
00275    EQUIVALENCE    (QS(1,17,1),RADSWG(1,1))
00276    EQUIVALENCE    (QS(1,18,1),RADLWG(1,1))
00277    EQUIVALENCE    (QS(1,19,1),ICLOUD(1,1))

C * * *
00278    C GLOBAL MODEL UPPER-AIR FIELDS
COMMON /QANDQT/ QU(72,9,14,46)

C
00279    DIMENSION    U(72,9,14,1)
00280    DIMENSION    V(72,9,14,1)
00281    DIMENSION    T(72,9,14,1)
00282    DIMENSION    SH(72,9,14,1)
00283    DIMENSION    PHI(72,9,14,1)
00284    DIMENSION    OMEGA(72,126,1)
00285    DIMENSION    DIABAT(72,126,1)
00286    DIMENSION    RADSW(72,126,1)
00287    DIMENSION    RADLW(72,126,1)

C
00288    EQUIVALENCE    (QU(1,1,1,1),U(1,1,1,1))
00289    EQUIVALENCE    (QU(1,1,3,1),V(1,1,1,1))
00290    EQUIVALENCE    (QU(1,1,5,1),T(1,1,1,1))
00291    EQUIVALENCE    (QU(1,1,7,1),SH(1,1,1,1))
00292    EQUIVALENCE    (QU(1,1,9,1),PHI(1,1,1,1))
00293    EQUIVALENCE    (QU(1,1,11,1),OMEGA(1,1,1))
00294    EQUIVALENCE    (QU(1,1,12,1),DIABAT(1,1,1))
00295    EQUIVALENCE    (QU(1,1,13,1),RADSW(1,1,1))
00296    EQUIVALENCE    (QU(1,1,14,1),RADLW(1,1,1))

C * * *
00297    C PHYSICS PARAMETERS AND CONSTANTS
COMMON /CNTRL/ CDFR
00298    COMMON /CNTRL/ CDXL
00299    COMMON /CNTRL/ CDXO
00300    COMMON /CNTRL/ CLH
00301    COMMON /CNTRL/ COE (9)
00302    COMMON /CNTRL/ COEF
00303    COMMON /CNTRL/ COEFS
00304    COMMON /CNTRL/ COSROT
00305    COMMON /CNTRL/ CPP
00306    COMMON /CNTRL/ CTID
00307    COMMON /CNTRL/ CUMDAY
00308    COMMON /CNTRL/ CUMRAT
00309    COMMON /CNTRL/ C10

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00310 COMMON /CNTRLP/ C100
 00311 COMMON /CNTRLP/ C40
 00312 COMMON /CNTRLP/ DELTA
 00313 COMMON /CNTRLP/ DTC3
 00314 COMMON /CNTRLP/ DTOUT
 00315 COMMON /CNTRLP/ ED
 00316 COMMON /CNTRLP/ EDNM
 00317 COMMON /CNTRLP/ FCOEF
 00318 COMMON /CNTRLP/ FMU
 00319 COMMON /CNTRLP/ FWET
 00320 COMMON /CNTRLP/ GAMFAC
 00321 COMMON /CNTRLP/ GTOPO
 00322 COMMON /CNTRLP/ HICE
 00323 COMMON /CNTRLP/ NDT03
 00324 COMMON /CNTRLP/ NFLW
 00325 COMMON /CNTRLP/ PIM
 00326 COMMON /CNTRLP/ QHOG
 00327 COMMON /CNTRLP/ SHLTOP
 00328 COMMON /CNTRLP/ SINROT
 00329 COMMON /CNTRLP/ SNOWN
 00330 COMMON /CNTRLP/ SNOWS
 00331 COMMON /CNTRLP/ STBO
 00332 COMMON /CNTRLP/ STERP1
 00333 COMMON /CNTRLP/ STERP2
 00334 COMMON /CNTRLP/ TICE
 00335 COMMON /CNTRLP/ TLTOP
 00336 COMMON /CNTRLP/ XDAY
 00337 COMMON /CNTRLP/ ZLNCO
 00338 LOGICAL QHOG

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RADIATION AND SOURCE TERM FIELDS

00339 COMMON /RADCOM/ AS(72,9), RE(72,10)
 00340 COMMON /RADCOM/ PL(72,9), PLE(72,10)
 00341 COMMON /RADCOM/ PLK(72,9), PLKE(10)
 00342 COMMON /RADCOM/ TL(72,9), TLE(72,10)
 00343 COMMON /RADCOM/ TG(72), TH(72,9)
 00344 COMMON /RADCOM/ SHL(72,9), SHLE(72,10)
 00345 COMMON /RADCOM/ SHG(72), CLOUD(72,12)
 00346 COMMON /RADCOM/ SHSAT(72,9), GAM(72,9)
 00347 COMMON /RADCOM/ RH(72,9)
 00348 COMMON /RADCOM/ SSE(72,9), SSSE(72,10)
 00349 COMMON /RADCOM/ HH(72,9), HHE(72,10)
 00350 COMMON /RADCOM/ HHS(72,9)
 00351 COMMON /RADCOM/ CVT(72,9), CVQ(72,9)
 00352 COMMON /RADCOM/ CXDE(9)
 00353 COMMON /RADCOM/ SWALE(72,10), SWIL(72,9)
 00354 COMMON /RADCOM/ AL(72,10)
 00355 COMMON /RADCOM/ TAUL(72,10), OZALE(72,10)
 00356 COMMON /RADCOM/ TOPABS(72)
 00357 COMMON /RADCOM/ RN(9), TN(9), SRS(9), STN(9)
 00358 COMMON /RADCOM/ TCOND(9), TPENE(9)
 00359 COMMON /RADCOM/ TLOWL, TMIDL, NLAYOZ
 00360 COMMON /RADCOM/ FK(5), XK(5), NFK
 00361 COMMON /RADCOM/ OLJAN(19), OLAPR(19), OLJUL(19), OLOCT(19)
 00362 COMMON /RADCOM/ OCM22(23), OCM30(23), OCM38(23), OCM46(23)
 00363 COMMON /RADCOM/ PROCM(23), OCMXX(23), NOZ, TOTOZ(4), ODATE(6)
 00364 COMMON /RADCOM/ CZH(72), WET(72), EVAP, PREP(72), WI(72)
 00365 COMMON /RADCOM/ COSZ(72), SO, RADTRM(72), CKL
 00366 COMMON /RADCOM/ SG(72), SP(72)
 00367 COMMON /RADCOM/ RSURF(72), RCLLOUD(72), JALB
 00368 COMMON /RADCOM/ LAND(72), OCEAN(72), ICE(72)
 00369 COMMON /RADCOM/ SNOW(72), MIXWI(72), FROST(72)
 00370 LOGICAL LAND, OCEAN, ICE, SNOW, MIXWI, FROST

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PRECIPITATION FIELDS FROM CUMULUS CONVECTION

00371 COMMON /PCON/ PCMID(72)
 00372 COMMON /PCON/ PCPEN(72)
 00373 COMMON /PCON/ PCLOW(72)

C

SCNTRLP 17
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 SRADCOM 32
 SRADCOM 33
 SRADCOM 34
 SRADCOM 35
 SRADCOM 36
 SPCON 2
 SPCON 3
 SPCON 4
 SPCON 5
 SPCON 6
 SPCON 7

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C ** RETA : 1./ (ENTRAINMENT FACTOR) **
C ** CXL : TOTAL MASS FLUX INTO CLOUD FOR **
C ** LOW-LEVEL CONVECTION **
C ** CXD : TOTAL MASS FLUX INTO CLOUD FOR **
C ** MIDDLE AND PENETR. CONVECTION **
C ** EVAPO3: AMOUNT OF MOISTURE ASSUMED TO **
C ** RE-EVAPORATE INTO LOW-LEVEL **

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C ** CLOUD AT LEVEL 3. ** SCUMULO 49
C ** EVAPOS: AMOUNT OF MOISTURE ASSUMED TO ** SCUMULO 50
C ** RE-EVAPORATE INTO LOW-LEVEL ** SCUMULO 51
C ** CLOUD AT LEVEL 5. ** SCUMULO 52
C ** ** SCUMULO 53
C ** PCMID : PRECIP. DUE TO MID. LEV. CONV. ** SCUMULO 54
C ** PCPEN : PRECIP. DUE TO PENETRAT. CONV. ** SCUMULO 55
C ** PCLOW : PRECIP. DUE TO LOW LEV. CONV. ** SCUMULO 56
C ** ** SCUMULO 57
C ** ** SCUMULO 58
C ** ** SCUMULO 59
C ** ** SCUMULO 60
C ** ** SCUMULO 61
C ** ** SCUMULO 62
C ** ** SCUMULO 63
C ** SPECIAL MOIST CONVECTION CODING FOR NINE LAYER MODEL WITH 2-2-2 ** SCUMULO 64
C ** STRAPPING, PRIMED QUANTITIES REFER TO STRAPPED LAYERS ** SCUMULO 65
C ** ** SCUMULO 66
C ** ** SCUMULO 67
C ** ** SCUMULO 68
00402 DS1P = DSIG(4) + DSIG(5) SCUMULO 69
00403 DS3P = DSIG(6) + DSIG(7) SCUMULO 70
00404 DS5P = DSIG(8) + DSIG(9) SCUMULO 71
C DO 1000 I=1,IM SCUMULO 72
C SCUMULO 73
00406 Q2P(I) = SHLE(I,6) SCUMULO 74
00407 Q3P(I) = .5*( SHL(I,6) + SHL(I,7)) SCUMULO 75
00408 Q4P(I) = SHLE(I,8) SCUMULO 76
00409 Q5P(I) = .5*( SHL(I,8) + SHL(I,9)) SCUMULO 77
C SCUMULO 78
00410 QST1P(I) = .5*(SHSAT(I,4) + SHSAT(I,5)) SCUMULO 79
C SCUMULO 80
00411 GAM1P(I) = .5*(GAM(I,4) + GAM(I,5)) SCUMULO 81
00412 GAM3P(I) = .5*(GAM(I,6) + GAM(I,7)) SCUMULO 82
C SCUMULO 83
00413 SS1P(I) = .5*( SSS(I,4) + SSS(I,5)) SCUMULO 84
00414 SS2P(I) = SSSE(I,6) SCUMULO 85
00415 SS3P(I) = .5*( SSS(I,6) + SSS(I,7)) SCUMULO 86
00416 SS4P(I) = SSSE(I,8) SCUMULO 87
00417 SS5P(I) = .5*( SSS(I,8) + SSS(I,9)) SCUMULO 88
C SCUMULO 89
00418 HH2P(I) = HHE(I,6) SCUMULO 90
00419 HH3P(I) = .5*( HH(I,6) + HH(I,7)) SCUMULO 91
00420 HH4P(I) = HHE(I,8) SCUMULO 92
00421 HH5P(I) = .5*( HH(I,8) + HH(I,9)) SCUMULO 93
C SCUMULO 94
00422 HH1SP(I) = .5*(HHS(I,4) + HHS(I,5)) SCUMULO 95
00423 HH3SP(I) = .5*(HHS(I,6) + HHS(I,7)) SCUMULO 96
C SCUMULO 97
00424 PCMID(I) = 0. SCUMULO 98
00425 PCPEN(I) = 0. SCUMULO 99
00426 PCLOW(I) = 0. SCUMULO 100
00427 CVT1P(I) = 0. SCUMULO 101
00428 CVT3P(I) = 0. SCUMULO 102
00429 CVT5P(I) = 0. SCUMULO 103
00430 CVQ1P(I) = 0. SCUMULO 104
00431 CVQ3P(I) = 0. SCUMULO 105
00432 CVQ5P(I) = 0. SCUMULO 106
C SCUMULO 107
00433 1000 CONTINUE SCUMULO 108
C SCUMULO 109
C ** ** SCUMULO 110
C ** ** SCUMULO 111
C ** MIDDLE-LEVEL CONVECTION ** SCUMULO 112
C ** ** SCUMULO 113
C ** ** SCUMULO 114
C ** ** SCUMULO 115
C ** ** SCUMULO 116
00434 DO 1010 I=1,IM SCUMULO 117
C EX = HH3P(I) - HH1SP(I) SCUMULO 118
C SCUMULO 119

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00475      CXD = ( HHSP(I)-HHISP(I) ) / TEMP          SCUMULO191
C
00476    225 CONTINUE                                SCUMULO192
00477      TEMP = CXD * (1.-RETA)                      SCUMULO193
00478      IF (TEMP.GT.DS3P) CXD = DS3P / (1.-RETA)    SCUMULO194
00479      TEMP = CXD*RETA                              SCUMULO195
00480      IF (TEMP.GT.DS5P) CXD = DS5P / RETA         SCUMULO196
00481      CT1P = CXD*(SS1P(I)-SS2P(I)+EX/(1.+GAM1P(I)))/DS1P SCUMULO197
00482      CT3P = CXD*(SS2P(I)-SS3P(I)+RETA*(SS3P(I) - SS4P(I)))/DS3P SCUMULO198
00483      CT5P = CXD*RETA*(SS4P(I) - SS5P(I))/DS5P   SCUMULO199
00484      CQ1P = CXD*(Q2P(I)-QST1P(I)-EX*GAM1P(I))/(1.+GAM1P(I))*CLH)/DS1P SCUMULO200
00485      CQ3P = CXD*(Q3P(I)-Q2P(I) + RETA*(Q4P(I) - Q3P(I)))/DS3P SCUMULO201
00486      CQ5P = CXD*RETA*(Q5P(I) - Q4P(I))/DS5P     SCUMULO202
00487      CVT1P(I) = CVT1P(I) + CT1P                 SCUMULO203
00488      CVT3P(I) = CVT3P(I) + CT3P                 SCUMULO204
00489      CVT5P(I) = CVT5P(I) + CT5P                 SCUMULO205
00490      CVQ1P(I) = CVQ1P(I) + CQ1P                SCUMULO206
00491      CVQ3P(I) = CVQ3P(I) + CQ3P                SCUMULO207
00492      CVQ5P(I) = CVQ5P(I) + CQ5P                SCUMULO208
C
00493      SS3P(I) = SS3P(I) + CT3P                  SCUMULO209
00494      SS5P(I) = SS5P(I) + CT5P                  SCUMULO210
00495      Q3P(I) = Q3P(I) - CQ3P                    SCUMULO211
00496      Q5P(I) = Q5P(I) - CQ5P                    SCUMULO212
C
00497      DO 227 L=LCL1,LCL2                         SCUMULO213
00498      ICLOUD(I,L) = 1                           SCUMULO214
00499    227 CONTINUE                                SCUMULO215
C
00500      CLOUD(I,NLAY+3) = LCL1 - 3                  SCUMULO216
00501      IF (QOUT) ICLOUD(I,J) = ICLOUD(I,J) + (LCL1-3)*4 SCUMULO217
C
00502      PCPEN(I) = (CQ1P*DS1P + CQ3P*DS3P + CQ5P*DS5P)*.1*SP(I)/GRAV SCUMULO218
C
00503      NCL = NCL+1                                 SCUMULO219
00504      IF (NCL.GT.4) NCL = 1                       SCUMULO220
00505      LCL1 = 8 - NCL                               SCUMULO221
00506      IF (NCL.EQ.1) LCL1 = 5                     SCUMULO222
00507      LCL2 = LCL1 + 3                             SCUMULO223
C
00508      HH1SP(I) = HH1SP(I) + (1. + GAM1P(I))*CT1P SCUMULO224
00509      HH3SP(I) = HH3SP(I) + (1. + GAM3P(I))*CT3P SCUMULO225
00510      HH3P(I) = HH3P(I) + CT3P - CLH*CQ3P        SCUMULO226
00511      HH5P(I) = HH5P(I) + CT5P - CLH*CQ5P        SCUMULO227
C
00512    1020 CONTINUE                                SCUMULO228
C
C *****                                         SCUMULO229
C ****                                           SCUMULO230
C *****                                         SCUMULO231
C *****                                         SCUMULO232
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C *****                                         SCUMULO269
C *****                                         SCUMULO270

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00528      CVT5P(I) = CVT5P(I) + CT5P
00529      CVQ3P(I) = CVQ3P(I) + CQ3P
00530      CVQ5P(I) = CVQ5P(I) + CQ5P
00531      PCLOW(I) = (DS3P*CQ3P + DS5P*CQ5P)*.1*SP(I)/GRAV
00532      IF (RH(I,7).GT.RH(I,8)) L = 8
00533      IF (RH(I,7).GT.RH(I,8)) L = 7
00534      CLOUD(I,L) = 1
00535      CLOUD(I,NLAYP1) = L - 6
00536      IF (QOUT) ICLOUD(I,J) = ICLOUD(I,J) + (L-6)*16
00537      1030 CONTINUE
00538      DO 1040 I=1,IM
00539      CVT(I,4) = 1.25*CVT1P(I) - .25*CVT3P(I)
00540      CVT(I,5) = .75*CVT1P(I) + .25*CVT3P(I)
00541      CVT(I,6) = CVT3P(I) + 0.125*(CVT1P(I) - CVT5P(I))
00542      CVT(I,7) = CVT3P(I) - 0.125*(CVT1P(I) - CVT5P(I))
00543      CVT(I,8) = .75*CVT5P(I) + .25*CVT3P(I)
00544      CVT(I,9) = 1.25*CVT5P(I) - .25*CVT3P(I)
00545      FRAC1 = 2.*SHSAT(I,4)/(SHSAT(I,4) + SHSAT(I,5))
00546      IF (CVQ1P(I).GT.0.) FRAC1 = 2.*SHL(I,4)/(SHL(I,4)+SHL(I,5)+1.E-50)
00547      FRAC2 = 2.-FRAC1
00548      CVQ(I,4) = FRAC1*CVQ1P(I)
00549      CVQ(I,5) = FRAC2*CVQ1P(I)
00550      FRAC1 = 2.*SHSAT(I,6)/(SHSAT(I,6) + SHSAT(I,7))
00551      IF (CVQ3P(I).GT.0.) FRAC1 = 2.*SHL(I,6)/(SHL(I,6)+SHL(I,7)+1.E-50)
00552      FRAC2 = 2.-FRAC1
00553      CVQ(I,6) = FRAC1*CVQ3P(I)
00554      CVQ(I,7) = FRAC2*CVQ3P(I)
00555      FRAC1 = 2.*SHSAT(I,8)/(SHSAT(I,8) + SHSAT(I,9))
00556      IF (CVQ5P(I).GT.0.) FRAC1 = 2.*SHL(I,8)/(SHL(I,8)+SHL(I,9)+1.E-50)
00557      FRAC2 = 2.-FRAC1
00558      CVQ(I,8) = FRAC1*CVQ5P(I)
00559      CVQ(I,9) = FRAC2*CVQ5P(I)
00560      1040 CONTINUE
00561      DO 1050 L=1,NLAY
00562      DO 1060 I=1,IM
00563      TL(I,L) = TL(I,L) + CVT(I,L)
00564      SHL(I,L) = SHL(I,L) - CVQ(I,L)
00565      SHSAT(I,L) = QSAT(TL(I,L),PL(I,L))
00566      GAM(I,L) = GAMFAC*SHSAT(I,L)/(TL(I,L)*TL(I,L))
00567      1060 CONTINUE
00568      1050 CONTINUE
00569      RETURN
00570      END

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SCUMULO262
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STATEMENT LABEL MAP
 --LABEL---DEFINED---REFERENCES

1000	433	405	
10000	398		
1010	458	434	435

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1020	512	459	460
1030	537	513	515
1040	560	538	
1050	568	561	
1060	567	562	
220	470	462	
225	476	469	
227	499	497	

VARIABLE MAP

NAME BLOCK TYPE CLASS REFERENCES

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

ADATE	CCNTRL	CHAR*8	SIMPLE	3	16														
ADLDP	RDPARM	REAL	SIMPLE	206															
AL	RADCOM	REAL	ARRAY	354															
ALBEDO	QANDQT	REAL	ARRAY	244	262														
APHEL	RCNTRL	REAL	SIMPLE	146															
AS	RADCOM	REAL	ARRAY	339															
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17														
BETA	RCNTRL	REAL	SIMPLE	147															
C10	CNTRLP	REAL	SIMPLE	309															
C100	CNTRLP	REAL	SIMPLE	310															
C40	CNTRLP	REAL	SIMPLE	311															
CALTOJ	RCNTRL	REAL	SIMPLE	185															
CC	CCNTRL	CHAR*8	ARRAY	14	15														
CCO	CCNTRL	CHAR*8	SIMPLE	2	14	15													
CCNTRL		REAL	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12					
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20														
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21														
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22														
ODATE	RADCOM	REAL	ARRAY	363															
CDFR	CNTRLP	REAL	SIMPLE	297															
CDXL	CNTRLP	REAL	SIMPLE	298															
CDXO	CNTRLP	REAL	SIMPLE	299															
CLH	CNTRLP	REAL	SIMPLE	300	443	453	457	484	510	511	516	519	523	524					
CLOUD	RADCOM	REAL	ARRAY	345	447/S	448/S	498/S	500/S	534/S	535/S									
CNTRLP		REAL	UNKNOWN	297	298	299	300	301	302	303	304	305	306	307					
				308	309	310	311	312	313	314	315	316	317	318					
				319	320	321	322	323	324	325	326	327	328	329					
				330	331	332	333	334	335	336	337								
COE	CNTRLP	REAL	ARRAY	301															
COEF	CNTRLP	REAL	SIMPLE	302															
COEFS	CNTRLP	REAL	SIMPLE	303															
CON1	RDPARM	REAL	SIMPLE	207															
CON1DT	RDPARM	REAL	SIMPLE	208															
CON2	RDPARM	REAL	SIMPLE	209															
CON2DT	RDPARM	REAL	SIMPLE	210															
CON3	RDPARM	REAL	SIMPLE	211															
CON3DT	RDPARM	REAL	SIMPLE	212															
CON4	RDPARM	REAL	SIMPLE	213															
CON4DT	RDPARM	REAL	SIMPLE	214															
CON5	RDPARM	REAL	SIMPLE	215															
COSD	RCNTRL	REAL	SIMPLE	148															
COSL	RDPARM	REAL	ARRAY	216															
COSLON	RDPARM	REAL	ARRAY	217															
COSROT	CNTRLP	REAL	SIMPLE	304															
COSZ	RADCOM	REAL	ARRAY	365															
CP	RCNTRL	REAL	SIMPLE	149															
CPD2	RDPARM	REAL	SIMPLE	218															
CPP	CNTRLP	REAL	SIMPLE	305															
CQ1P		REAL	SIMPLE	484/S	490	502													
CQ3P		REAL	SIMPLE	485/S	491	495	502	510	526/S	529	531								
CQ5P		REAL	SIMPLE	486/S	492	496	502	511	525/S	526	530	531							
CQS	CCNTRL	REAL	ARRAY	12															
CQU	CCNTRL	REAL	ARRAY	13															
CT1P		REAL	SIMPLE	481/S	487	508													
CT3P		REAL	SIMPLE	482/S	488	493	509	510	523/S	527									
CT5P		REAL	SIMPLE	483/S	489	494	511	524/S	528										
CTID	CNTRLP	REAL	SIMPLE	306															

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GAMFAC	CNTRLP	REAL	SIMPLE	320	566										
GNU1	RCNTRL	REAL	SIMPLE	158											
GNU2	RCNTRL	REAL	SIMPLE	159											
GRAV	RCNTRL	REAL	SIMPLE	160	450	502	531								
GT	QANDQT	REAL	ARRAY	245	263										
GTOPO	CNTRLP	REAL	SIMPLE	321											
GW	QANDQT	REAL	ARRAY	246	264										
H1DT	RDPARM	REAL	SIMPLE	225											
H2DT	RDPARM	REAL	SIMPLE	226											
HEATI	RCNTRL	REAL	SIMPLE	182											
HEATW	RCNTRL	REAL	SIMPLE	181											
HFLUX	QANDQT	REAL	ARRAY	254	272										
HH	RADCOM	REAL	ARRAY	349	419	419	421	421							
HH1SP	DCUMU	REAL	ARRAY	390	422/S	435	451/S	451	460	462	465	471	475	508	
				508											
HH2P	DCUMU	REAL	ARRAY	386	418/S	437									
HH3P	DCUMU	REAL	ARRAY	387	419/S	435	437	453/S	453	461	463	471	510/S	510	
HH3SP	DCUMU	REAL	ARRAY	391	423/S	452/S	452	460	462	463	465	468	509/S	509	
				514											
HH4P	DCUMU	REAL	ARRAY	388	420/S	466	473	519							
HH5P	DCUMU	REAL	ARRAY	389	421/S	460	460	461	466	468	473	475	511/S	511	
				514	519										
HHE	RADCOM	REAL	ARRAY	349	418	420									
HHS	RADCOM	REAL	ARRAY	350	422	422	423	423							
HICE	CNTRLP	REAL	SIMPLE	322											
I		INTEGER	SIMPLE	405/C	406	406	407	407	407	408	408	409	409	409	409
				410	410	410	411	411	411	412	412	412	413	413	413
				413	414	414	415	415	415	416	416	417	417	417	417
				418	418	419	419	419	420	420	421	421	421	422	422
				422	422	423	423	423	424	425	426	427	428	429	429
				430	431	432	434/C	435	435	437	437	437	437	437	437
				441	441	441	441	442	442	442	443	443	443	443	443
				443	444	444	444	446	446	447	448	449	449	449	450
				450	450	450	451	451	451	451	452	452	452	452	452
				453	453	453	453	454	454	454	455	455	455	455	456
				456	456	457	457	457	457	459/C	460	460	460	460	460
				461	461	462	462	463	463	465	465	466	466	466	466
				466	466	466	466	468	468	471	471	473	473	473	473
				473	473	475	475	481	481	481	482	482	482	482	482
				483	483	484	484	484	484	485	485	485	485	485	486
				486	487	487	488	488	489	489	490	490	491	491	491
				492	492	493	493	494	494	495	495	496	496	496	498
				500	501	501	502	502	508	508	508	509	509	509	509
				510	510	511	511	513/C	514	514	516	516	516	519	519
				519	519	519	519	519	523	523	524	524	525	525	525
				527	527	528	528	529	529	530	530	531	531	533	533
				533	534	535	536	536	538/C	539	539	539	540	540	540
				540	541	541	541	541	542	542	542	542	543	543	543
				543	544	544	544	545	545	545	546	546	546	546	546
				548	548	549	549	550	550	550	551	551	551	551	551
				553	553	554	554	555	555	555	556	556	556	556	556
				558	558	559	559	562/C	563	563	563	564	564	564	564
				565	565	565	566	566	566	566	566				
				90	91										
IC	CNTRL	INTEGER	ARRAY	25	90	91									
ICO	RCNTRL	INTEGER	SIMPLE	368	370										
ICE	RADCOM	LOGICAL	ARRAY	259	277	449/S	449	501/S	501	536/S	536				
ICLOUD	QANDQT	INTEGER	ARRAY	25	26	27	28	29	30	31	32				
ICNTRL		INTEGER	UNKNOWN	36	37	38	39	40	41	42	43	33	34	35	
				47	48	49	50	51	52	53	54	44	45	46	
				58	59	60	61	62	63	64	65	55	56	57	
				69	70	71	72	73	74	75	76	66	67	68	
				66											
ICSP53	CNTRL	INTEGER	SIMPLE	68											
ICSP55	CNTRL	INTEGER	SIMPLE	88											
IDIABAT	CNTRL	INTEGER	UNKNOWN	189	190	191	192	193	194	195	196	197	198	199	
IDPARM		INTEGER	UNKNOWN	190											
IDSP02	IDPARM	INTEGER	SIMPLE	82											
IEFLUX	CNTRL	INTEGER	UNKNOWN	83											
IFUSION	CNTRL	INTEGER	UNKNOWN	81											
IHFLUX	CNTRL	INTEGER	UNKNOWN												

IICLOUD	ICNTRL	INTEGER	UNKNOWN	86																
IJUMP	IDPARM	INTEGER	ARRAY	189																
IM	ICNTRL	INTEGER	SIMPLE	26	405	434	459	513	538	562										
IND2	ICNTRL	INTEGER	SIMPLE	27																
IND2P1	ICNTRL	INTEGER	SIMPLE	28																
INDEX	IDPARM	INTEGER	ARRAY	191																
IONEGA	ICNTRL	INTEGER	UNKNOWN	87																
IPREACC	ICNTRL	INTEGER	UNKNOWN	79																
IPRECON	ICNTRL	INTEGER	UNKNOWN	80																
IQS	ICNTRL	INTEGER	ARRAY	75	77	78	79	80	81	82	83	84	85	86						
IQU	ICNTRL	INTEGER	ARRAY	76	87	88	89													
IRADLWG	ICNTRL	INTEGER	UNKNOWN	85																
IRADSW	ICNTRL	INTEGER	UNKNOWN	89																
IRADSWG	ICNTRL	INTEGER	UNKNOWN	84																
IROD	IDPARM	INTEGER	SIMPLE	192																
ITAPE	IDPARM	LOGICAL	SIMPLE	201	204															
ITMAX	ICNTRL	INTEGER	UNKNOWN	78																
ITMIN	ICNTRL	INTEGER	UNKNOWN	77																
J		INTEGER	SIMPLE	1	449	449	501	501	536	536										
JALB	RADCOM	INTEGER	SIMPLE	367																
JC	IDPARM	INTEGER	ARRAY	193																
JE	IDPARM	INTEGER	ARRAY	194																
JIC	CCNTRL	CHAR*8	SIMPLE	5	18															
JM	ICNTRL	INTEGER	SIMPLE	30																
JMD2	ICNTRL	INTEGER	SIMPLE	31																
JMT2	ICNTRL	INTEGER	SIMPLE	32																
JNP	ICNTRL	INTEGER	SIMPLE	33																
JO4	ICNTRL	INTEGER	SIMPLE	34																
JOS	ICNTRL	INTEGER	SIMPLE	35																
JOB	CCNTRL	CHAR*8	SIMPLE	6	19															
JP	IDPARM	INTEGER	ARRAY	195																
JSP	ICNTRL	INTEGER	SIMPLE	36																
KLIALB	ICNTRL	INTEGER	SIMPLE	37																
KLIGW	ICNTRL	INTEGER	SIMPLE	38																
KLISST	ICNTRL	INTEGER	SIMPLE	39																
KS	ICNTRL	INTEGER	SIMPLE	40																
KSTEP	IDPARM	INTEGER	SIMPLE	196																
KU	ICNTRL	INTEGER	SIMPLE	41																
L		INTEGER	SIMPLE	445/S	446/S	447	448	449	497/C	498	532/S	533/S	534	535						
				536	561/C	563	563	563	564	564	564	565	565	565						
				566	566	566	566													
LAND	RADCOM	LOGICAL	ARRAY	368																
LC	LCNTRL	LOGICAL	ARRAY	143																
LCO	LCNTRL	LOGICAL	SIMPLE	92																
LCL1		INTEGER	SIMPLE	400/S	497	144	501	505/S	506/S	507										
LCL2		INTEGER	SIMPLE	401/S	497	507/S														
LCNTRL		INTEGER	UNKNOWN	92	93	94	95	96	97	98	99	100	101	102						
				103	104															
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	116	141															
LDPARM		INTEGER	UNKNOWN	200	201	202														
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	110	135															
LFUSION	LCNTRL	LOGICAL	UNKNOWN	111	136															
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	109	134															
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	139															
LOG8R	ICNTRL	INTEGER	SIMPLE	42																
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	115	140															
LPREACC	LCNTRL	LOGICAL	UNKNOWN	107	132															
LPRECON	LCNTRL	LOGICAL	UNKNOWN	108	133															
LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114						
				128																
LQU	LCNTRL	LOGICAL	ARRAY	104	115	116	117	129												
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138															
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	142															
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	112	137															
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131															
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130															
MATIN	ICNTRL	INTEGER	SIMPLE	43																
MATSNX	ICNTRL	INTEGER	SIMPLE	44																
MATSUN	ICNTRL	INTEGER	SIMPLE	45																
MIXWI	RADCOM	LOGICAL	ARRAY	369	370															

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MJ	IDPARM	INTEGER	ARRAY	197						
MLF	ICNTRL	INTEGER	ARRAY	46						
MROD	ICNTRL	INTEGER	SIMPLE	47						
MSM	ICNTRL	INTEGER	SIMPLE	49						
NB	ICNTRL	INTEGER	SIMPLE	50						
NCL		INTEGER	SIMPLE	399/S	503/S	503	504	504/S	505	506
ND	ICNTRL	INTEGER	SIMPLE	51						
NDALT	ICNTRL	INTEGER	SIMPLE	52						
NDAY	ICNTRL	INTEGER	SIMPLE	53						
NDHOG	ICNTRL	INTEGER	SIMPLE	74						
NDOUT	ICNTRL	INTEGER	SIMPLE	54						
NDPHY	ICNTRL	INTEGER	SIMPLE	55						
NDRSW	ICNTRL	INTEGER	SIMPLE	29						
NDSHF	ICNTRL	INTEGER	SIMPLE	56						
NDT	ICNTRL	INTEGER	SIMPLE	57						
NDTC3	CNTRLP	INTEGER	SIMPLE	323						
NFK	RADCOM	INTEGER	SIMPLE	360						
NFLW	CNTRLP	INTEGER	SIMPLE	324						
NHMS	ICNTRL	INTEGER	SIMPLE	58						
NHMS0	ICNTRL	INTEGER	SIMPLE	60						
NHMS1	IDPARM	INTEGER	SIMPLE	198						
NHMSE	ICNTRL	INTEGER	SIMPLE	59						
NKRSH	ICNTRL	INTEGER	SIMPLE	48						
NLAY	ICNTRL	INTEGER	SIMPLE	61	448	500	561			
NLAYM1	ICNTRL	INTEGER	SIMPLE	62						
NLAYOZ	RADCOM	INTEGER	SIMPLE	359						
NLAYP1	ICNTRL	INTEGER	SIMPLE	63	535					
NMLEV	ICNTRL	INTEGER	SIMPLE	73						
NOZ	RADCOM	INTEGER	SIMPLE	363						
NSDAY	ICNTRL	INTEGER	SIMPLE	64						
NSEQ	ICNTRL	INTEGER	SIMPLE	65						
NSTEP	ICNTRL	INTEGER	SIMPLE	67						
NYMD	ICNTRL	INTEGER	SIMPLE	69						
NYMD0	ICNTRL	INTEGER	SIMPLE	71						
NYMD1	IDPARM	INTEGER	SIMPLE	199						
NYMDE	ICNTRL	INTEGER	SIMPLE	70						
NZIN1T	ICNTRL	INTEGER	SIMPLE	72						
OCEAN	RADCOM	LOGICAL	ARRAY	368	370					
OCM22	RADCOM	REAL	ARRAY	362						
OCM30	RADCOM	REAL	ARRAY	362						
OCM38	RADCOM	REAL	ARRAY	362						
OCM46	RADCOM	REAL	ARRAY	362						
OCMXX	RADCOM	REAL	ARRAY	363						
OLAPR	RADCOM	REAL	ARRAY	361						
OLJAN	RADCOM	REAL	ARRAY	361						
OLJUL	RADCOM	REAL	ARRAY	361						
OLOCT	RADCOM	REAL	ARRAY	361						
OMEGA	QANDQT	REAL	ARRAY	284	293					
OMEGA2	RCNTRL	REAL	SIMPLE	161						
OZALE	RADCOM	REAL	ARRAY	355						
P	QANDQT	REAL	ARRAY	249	287					
PCLOW	PCON	REAL	ARRAY	373	426/S	531/S				
PCMID	PCON	REAL	ARRAY	371	424/S	450/S				
PCON		REAL	UNKNOWN	371	372	373				
PCPEN	PCON	REAL	ARRAY	372	425/S	502/S				
PHI	QANDQT	REAL	ARRAY	283	292					
PHIS	QANDQT	REAL	ARRAY	242	260					
PI	RCNTRL	REAL	SIMPLE	162						
PI180	RCNTRL	REAL	SIMPLE	163						
PI2	RCNTRL	REAL	SIMPLE	164						
PIM	CNTRLP	REAL	SIMPLE	325						
PIMEAN	RCNTRL	REAL	SIMPLE	166						
PKSTD	RDPARM	REAL	SIMPLE	227						
PKTOP	RDPARM	REAL	SIMPLE	228						
PL	RADCOM	REAL	ARRAY	340	565					
PLE	RADCOM	REAL	ARRAY	340						
PLEVS	RCNTRL	REAL	ARRAY	180						
PLK	RADCOM	REAL	ARRAY	341						
PLKE	RADCOM	REAL	ARRAY	341						

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OF POOR QUALITY

IIICLOUD	ICNTRL	INTEGER	UNKNOWN	86															
IJUMP	IDPARM	INTEGER	ARRAY	189															
IM	ICNTRL	INTEGER	SIMPLE	26	405	434	459	513	538	562									
IMD2	ICNTRL	INTEGER	SIMPLE	27															
IMD2P1	ICNTRL	INTEGER	SIMPLE	28															
INDEX	IDPARM	INTEGER	ARRAY	191															
IOMEGA	ICNTRL	INTEGER	UNKNOWN	87															
IPREACC	ICNTRL	INTEGER	UNKNOWN	79															
IPRECON	ICNTRL	INTEGER	UNKNOWN	80															
IQS	ICNTRL	INTEGER	ARRAY	75	77	78	79	80	81	82	83	84	85	86					
IQU	ICNTRL	INTEGER	ARRAY	76	87	88	89												
IRADLWG	ICNTRL	INTEGER	UNKNOWN	85															
IRADSW	ICNTRL	INTEGER	UNKNOWN	89															
IRADSWG	ICNTRL	INTEGER	UNKNOWN	84															
IROD	IDPARM	INTEGER	SIMPLE	192															
ITAPE	IDPARM	LOGICAL	SIMPLE	201	204														
ITMAX	ICNTRL	INTEGER	UNKNOWN	78															
ITMIN	ICNTRL	INTEGER	UNKNOWN	77															
J		INTEGER	SIMPLE	1	449	449	501	501	536	536									
JALB	RADCOM	INTEGER	SIMPLE	367															
JC	IDPARM	INTEGER	ARRAY	193															
JE	IDPARM	INTEGER	ARRAY	194															
JIC	ICNTRL	CHAR*8	SIMPLE	5	18														
JM	ICNTRL	INTEGER	SIMPLE	30															
JMD2	ICNTRL	INTEGER	SIMPLE	31															
JMT2	ICNTRL	INTEGER	SIMPLE	32															
JNP	ICNTRL	INTEGER	SIMPLE	33															
JO4	ICNTRL	INTEGER	SIMPLE	34															
JO8	ICNTRL	INTEGER	SIMPLE	35															
JO8	ICNTRL	CHAR*8	SIMPLE	6	19														
JP	IDPARM	INTEGER	ARRAY	195															
JSP	ICNTRL	INTEGER	SIMPLE	36															
KLIAIB	ICNTRL	INTEGER	SIMPLE	37															
KLIIGW	ICNTRL	INTEGER	SIMPLE	38															
KLISST	ICNTRL	INTEGER	SIMPLE	39															
KS	ICNTRL	INTEGER	SIMPLE	40															
KSTEP	IDPARM	INTEGER	SIMPLE	196															
KU	ICNTRL	INTEGER	SIMPLE	41															
L		INTEGER	SIMPLE	445/S	446/S	447	448	449	497/C	498	532/S	533/S	534	535					
				536	561/C	563	563	563	564	564	564	565	565	565					
				566	566	566	566												
LAND	RADCOM	LOGICAL	ARRAY	368	370														
LC	ICNTRL	LOGICAL	ARRAY	143	144														
LC0	ICNTRL	LOGICAL	SIMPLE	92	143	144													
LCL1		INTEGER	SIMPLE	400/S	497	500	501	505/S	506/S	507									
LCL2		INTEGER	SIMPLE	401/S	497	507/S													
LCNTRL		INTEGER	UNKNOWN	92	93	94	95	96	97	98	99	100	101	102					
				103	104														
LDIABAT	ICNTRL	LOGICAL	UNKNOWN	116	141														
LDPARM		INTEGER	UNKNOWN	200	201	202													
LEFLUX	ICNTRL	LOGICAL	UNKNOWN	110	135														
LFUSION	ICNTRL	LOGICAL	UNKNOWN	111	136														
LHFLUX	ICNTRL	LOGICAL	UNKNOWN	109	134														
LICLOUD	ICNTRL	LOGICAL	UNKNOWN	114	139														
LOGBR	ICNTRL	INTEGER	SIMPLE	42															
LOMEGA	ICNTRL	LOGICAL	UNKNOWN	115	140														
LPREACC	ICNTRL	LOGICAL	UNKNOWN	107	132														
LPRECON	ICNTRL	LOGICAL	UNKNOWN	108	133														
LQS	ICNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114					
				128															
LQU	ICNTRL	LOGICAL	ARRAY	104	115	116	117	129											
LRADLWG	ICNTRL	LOGICAL	UNKNOWN	113	138														
LRADSW	ICNTRL	LOGICAL	UNKNOWN	117	142														
LRADSWG	ICNTRL	LOGICAL	UNKNOWN	112	137														
LTMAX	ICNTRL	LOGICAL	UNKNOWN	106	131														
LTMIN	ICNTRL	LOGICAL	UNKNOWN	105	130														
MATIN	ICNTRL	INTEGER	SIMPLE	43															
MATSNX	ICNTRL	INTEGER	SIMPLE	44															
MATSUN	ICNTRL	INTEGER	SIMPLE	45															
MIXWI	RADCOM	LOGICAL	ARRAY	369	370														

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MJ	IDPARM	INTEGER	ARRAY	197						
MLF	ICNTRL	INTEGER	ARRAY	46						
MROD	ICNTRL	INTEGER	SIMPLE	47						
MSM	ICNTRL	INTEGER	SIMPLE	49						
NB	ICNTRL	INTEGER	SIMPLE	50						
NCL		INTEGER	SIMPLE	399/S	503/S	503	504	504/S	505	506
ND	ICNTRL	INTEGER	SIMPLE	51						
NDALT	ICNTRL	INTEGER	SIMPLE	52						
NDAY	ICNTRL	INTEGER	SIMPLE	53						
NDHOG	ICNTRL	INTEGER	SIMPLE	74						
NDOUT	ICNTRL	INTEGER	SIMPLE	54						
NDPHY	ICNTRL	INTEGER	SIMPLE	55						
NDRSW	ICNTRL	INTEGER	SIMPLE	29						
NDSHF	ICNTRL	INTEGER	SIMPLE	56						
NDT	ICNTRL	INTEGER	SIMPLE	57						
NDTC3	CNTRLP	INTEGER	SIMPLE	323						
NFK	RADCOM	INTEGER	SIMPLE	360						
NFLW	CNTRLP	INTEGER	SIMPLE	324						
NHMS	ICNTRL	INTEGER	SIMPLE	58						
NHMS0	ICNTRL	INTEGER	SIMPLE	60						
NHMS1	IDPARM	INTEGER	SIMPLE	198						
NHMSE	ICNTRL	INTEGER	SIMPLE	59						
NKRSH	ICNTRL	INTEGER	SIMPLE	48						
NLAY	ICNTRL	INTEGER	SIMPLE	61	448	500	561			
NLAYM1	ICNTRL	INTEGER	SIMPLE	62						
NLAYOZ	RADCOM	INTEGER	SIMPLE	359						
NLAYP1	ICNTRL	INTEGER	SIMPLE	63	535					
NMLEV	ICNTRL	INTEGER	SIMPLE	73						
NOZ	RADCOM	INTEGER	SIMPLE	363						
NSDAY	ICNTRL	INTEGER	SIMPLE	64						
NSE0	ICNTRL	INTEGER	SIMPLE	65						
NSTEP	ICNTRL	INTEGER	SIMPLE	67						
NYMD	ICNTRL	INTEGER	SIMPLE	69						
NYMD0	ICNTRL	INTEGER	SIMPLE	71						
NYMD1	IDPARM	INTEGER	SIMPLE	199						
NYMDE	ICNTRL	INTEGER	SIMPLE	70						
NZINIT	ICNTRL	INTEGER	SIMPLE	72						
OCEAN	RADCOM	LOGICAL	ARRAY	368	370					
OCM22	RADCOM	REAL	ARRAY	362						
OCM30	RADCOM	REAL	ARRAY	362						
OCM38	RADCOM	REAL	ARRAY	362						
OCM46	RADCOM	REAL	ARRAY	362						
OCMXX	RADCOM	REAL	ARRAY	363						
OLAPR	RADCOM	REAL	ARRAY	361						
OLJAN	RADCOM	REAL	ARRAY	361						
OLJUL	RADCOM	REAL	ARRAY	361						
OLOCT	RADCOM	REAL	ARRAY	361						
OMEGA	QANDOT	REAL	ARRAY	284	293					
OMEGA2	RCNTRL	REAL	SIMPLE	161						
OZALE	RADCOM	REAL	ARRAY	355						
P	QANDOT	REAL	ARRAY	249	267					
PCLOW	PCON	REAL	ARRAY	373	426/S	531/S				
PCMID	PCON	REAL	ARRAY	371	424/S	450/S				
PCON		REAL	UNKNOWN	371	372	373				
PCPEN	PCON	REAL	ARRAY	372	425/S	502/S				
PHI	QANDOT	REAL	ARRAY	283	292					
PHIS	QANDOT	REAL	ARRAY	242	260					
PI	RCNTRL	REAL	SIMPLE	162						
PI180	RCNTRL	REAL	SIMPLE	163						
PI2	RCNTRL	REAL	SIMPLE	164						
PIM	CNTRLP	REAL	SIMPLE	325						
PIMEAN	RCNTRL	REAL	SIMPLE	166						
PKSTD	RDPARM	REAL	SIMPLE	227						
PKTOP	RDPARM	REAL	SIMPLE	228						
PL	RADCOM	REAL	ARRAY	340	565					
PLE	RADCOM	REAL	ARRAY	340						
PLEVS	RCNTRL	REAL	ARRAY	180						
PLK	RADCOM	REAL	ARRAY	341						
PLKE	RADCOM	REAL	ARRAY	341						

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PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT	FN	DEF	A=ARGLIST
AMAXI	REAL	INTRINSIC	438	461	467	474	520
AMINI	REAL	INTRINSIC	522				
QSAT	REAL	FUNCTION	565				

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00001

SUBROUTINE DAILY (-)

PURPOSE

UPDATE CALENDAR, CORRECT GLOBAL MEAN PRESSURE
AND INPUT CLIMATOLOGY IF AT BEGINNING OF NEW DAY.
CALLED BY MAIN (GWSGCM) ONLY

USAGE

ARGUMENTS

DESCRIPTION
CLIMATOLOGY I/O ERROR RETURN

I/O DDNAME

DESCRIPTION
41 MONTHLY TOPOGRAPHY
42 MONTHLY GROUND WETNESS
43 MONTHLY ALBEDO

SUBPROGRAMS NEEDED

NAME DESCRIPTION
RDCL1 READ CLIMATE DATASET

RECORD OF MODIFICATIONS

BASED ON OLD VERSION 8.

?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS?
05/19/83 RAMESH THIS PART AND COMMENTS

REMARKS:

(1) ?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.?

M / A - C O M S I G M A D A T A I N C . N A S A - G S F C

CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD

COMMON /CCNTRL/ CCO
COMMON /CCNTRL/ ADATE
COMMON /CCNTRL/ ATIME
COMMON /CCNTRL/ JIC
COMMON /CCNTRL/ JOB
COMMON /CCNTRL/ CCSP06
COMMON /CCNTRL/ CCSP07
COMMON /CCNTRL/ CCSP08
COMMON /CCNTRL/ VER
COMMON /CCNTRL/ XLABEL (10)
COMMON /CCNTRL/ CQS (30)
COMMON /CCNTRL/ CQU (10)

EQUIVALENCE (CC0,CC(1))
CHARACTER*8 CCO, CC(200)
CHARACTER*8 ADATE
CHARACTER*8 ATIME
CHARACTER*8 JIC
CHARACTER*8 JOB
CHARACTER*8 CCSP06
CHARACTER*8 CCSP07
CHARACTER*8 CCSP08
CHARACTER*8 VER
CHARACTER*8 XLABEL

INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD

COMMON /ICNTRL/ ICO
COMMON /ICNTRL/ IM
COMMON /ICNTRL/ IMD2
COMMON /ICNTRL/ IMD2P1
COMMON /ICNTRL/ NORSW
COMMON /ICNTRL/ JM
COMMON /ICNTRL/ JMD2
COMMON /ICNTRL/ JMT2

SDAILY 2
SDAILY 3
SDAILY 4
SDAILY 5
SDAILY 6
SDAILY 7
SDAILY 8
SDAILY 9
SDAILY 10
SDAILY 11
SDAILY 12
SDAILY 13
SDAILY 14
SDAILY 15
SDAILY 16
SDAILY 17
SDAILY 18
SDAILY 19
SDAILY 20
SDAILY 21
SDAILY 22
SDAILY 23
SDAILY 24
SDAILY 25
SDAILY 26
SDAILY 27
SDAILY 28
SDAILY 29
SDAILY 30
SDAILY 31
SDAILY 32
SDAILY 33
SDAILY 34
SCNTRL 2
SCNTRL 3
SCNTRL 4
SCNTRL 5
SCNTRL 6
SCNTRL 7
SCNTRL 8
SCNTRL 9
SCNTRL 10
SCNTRL 11
SCNTRL 12
SCNTRL 13
SCNTRL 14
SCNTRL 15
SCNTRL 16
SCNTRL 17
SCNTRL 18
SCNTRL 19
SCNTRL 20
SCNTRL 21
SCNTRL 22
SCNTRL 23
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SCNTRL 27
SCNTRL 28
SCNTRL 29
SCNTRL 30
SCNTRL 31
SCNTRL 32
SCNTRL 33
SCNTRL 34
SCNTRL 35
SCNTRL 36
SCNTRL 37
SCNTRL 38
SCNTRL 39

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DAILY 1

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00033	COMMON /ICNTRL/ JNP	SCNTRL 40
00034	COMMON /ICNTRL/ JO4	SCNTRL 41
00035	COMMON /ICNTRL/ JO8	SCNTRL 42
00036	COMMON /ICNTRL/ JSP	SCNTRL 43
00037	COMMON /ICNTRL/ KLIALB	SCNTRL 44
00038	COMMON /ICNTRL/ KLIGW	SCNTRL 45
00039	COMMON /ICNTRL/ KLISST	SCNTRL 46
00040	COMMON /ICNTRL/ KS	SCNTRL 47
00041	COMMON /ICNTRL/ KU	SCNTRL 48
00042	COMMON /ICNTRL/ LOGBR	SCNTRL 49
00043	COMMON /ICNTRL/ MATIN	SCNTRL 50
00044	COMMON /ICNTRL/ MATSNX	SCNTRL 51
00045	COMMON /ICNTRL/ MATSUN	SCNTRL 52
00046	COMMON /ICNTRL/ MLF (12)	SCNTRL 53
00047	COMMON /ICNTRL/ MRCD	SCNTRL 54
00048	COMMON /ICNTRL/ NKRSH	SCNTRL 55
00049	COMMON /ICNTRL/ MSM	SCNTRL 56
00050	COMMON /ICNTRL/ NB	SCNTRL 57
00051	COMMON /ICNTRL/ ND	SCNTRL 58
00052	COMMON /ICNTRL/ NDALT	SCNTRL 59
00053	COMMON /ICNTRL/ NDAY	SCNTRL 60
00054	COMMON /ICNTRL/ NDOUT	SCNTRL 61
00055	COMMON /ICNTRL/ NDPHY	SCNTRL 62
00056	COMMON /ICNTRL/ NDSHF	SCNTRL 63
00057	COMMON /ICNTRL/ NDT	SCNTRL 64
00058	COMMON /ICNTRL/ NHMS	SCNTRL 65
00059	COMMON /ICNTRL/ NHMSE	SCNTRL 66
00060	COMMON /ICNTRL/ NHMSO	SCNTRL 67
00061	COMMON /ICNTRL/ NLAY	SCNTRL 68
00062	COMMON /ICNTRL/ NLAYM1	SCNTRL 69
00063	COMMON /ICNTRL/ NLAYP1	SCNTRL 70
00064	COMMON /ICNTRL/ NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
C		SCNTRL 84
00077	EQUIVALENCE (ITMIN .IQS(1))	SCNTRL 85
00078	EQUIVALENCE (ITMAX .IQS(2))	SCNTRL 86
00079	EQUIVALENCE (IPREACC .IQS(3))	SCNTRL 87
00080	EQUIVALENCE (IPRECON .IQS(4))	SCNTRL 88
00081	EQUIVALENCE (IHFLUX .IQS(5))	SCNTRL 89
00082	EQUIVALENCE (IEFLUX .IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION .IQS(7))	SCNTRL 91
00084	EQUIVALENCE (IRADSWG .IQS(8))	SCNTRL 92
00085	EQUIVALENCE (IRADLWG .IQS(9))	SCNTRL 93
00086	EQUIVALENCE (IICLOUD .IQS(10))	SCNTRL 94
C		SCNTRL 95
00087	EQUIVALENCE (IOMEGA .IQU(1))	SCNTRL 96
00088	EQUIVALENCE (IDIABAT .IQU(2))	SCNTRL 97
00089	EQUIVALENCE (IRADSW .IQU(3))	SCNTRL 98
C		SCNTRL 99
00090	EQUIVALENCE (ICO, IC(1))	SCNTRL 100
00091	INTEGER ICO, IC(200)	SCNTRL 101
C		SCNTRL 102
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL 103
C	=====	SCNTRL 104
00092	COMMON /LCNTRL/ LCO	SCNTRL 105
00093	COMMON /LCNTRL/ QALT	SCNTRL 106
00094	COMMON /LCNTRL/ QBEG	SCNTRL 107
00095	COMMON /LCNTRL/ QDAY	SCNTRL 108
00096	COMMON /LCNTRL/ QEND	SCNTRL 109
00097	COMMON /LCNTRL/ QOUT	SCNTRL 110

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00098 COMMON /LCNTRL/ QPHY
00099 COMMON /LCNTRL/ QSHF
00100 COMMON /LCNTRL/ SN2FLG
00101 COMMON /LCNTRL/ QRSW
00102 COMMON /LCNTRL/ QRSW
00103 COMMON /LCNTRL/ LQS(30)
00104 COMMON /LCNTRL/ LQU(10)

C
00105 EQUIVALENCE (LTMIN ,LQS( 1))
00106 EQUIVALENCE (LTMAX ,LQS( 2))
00107 EQUIVALENCE (LPREACC ,LQS( 3))
00108 EQUIVALENCE (LPRECON ,LQS( 4))
00109 EQUIVALENCE (LHFLUX ,LQS( 5))
00110 EQUIVALENCE (LEFLUX ,LQS( 6))
00111 EQUIVALENCE (LFUSION ,LQS( 7))
00112 EQUIVALENCE (LRADSWG ,LQS( 8))
00113 EQUIVALENCE (LRADLWG ,LQS( 9))
00114 EQUIVALENCE (LICLOUD ,LQS(10))

C
00115 EQUIVALENCE (LOMEGA ,LQU( 1))
00116 EQUIVALENCE (LDIABAT ,LQU( 2))
00117 EQUIVALENCE (LRADSW ,LQU( 3))

C
00118 LOGICAL QALT
00119 LOGICAL QBEG
00120 LOGICAL QDAY
00121 LOGICAL QEND
00122 LOGICAL QOUT
00123 LOGICAL QPHY
00124 LOGICAL QSHF
00125 LOGICAL SN2FLG
00126 LOGICAL QRSW
00127 LOGICAL QRSW

C
00128 LOGICAL LQS
00129 LOGICAL LQU
00130 LOGICAL LTMIN
00131 LOGICAL LTMAX
00132 LOGICAL LPREACC
00133 LOGICAL LPRECON
00134 LOGICAL LHFLUX
00135 LOGICAL LEFLUX
00136 LOGICAL LFUSION
00137 LOGICAL LRADSWG
00138 LOGICAL LRADLWG
00139 LOGICAL LICLOUD

C
00140 LOGICAL LOMEGA
00141 LOGICAL LDIABAT
00142 LOGICAL LRADSW

C
00143 EQUIVALENCE (LC0,LC(1))
00144 LOGICAL LC0, LC(200)

C
C REAL MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00145 COMMON /RCNTRL/ RCO
00146 COMMON /RCNTRL/ APHEL
00147 COMMON /RCNTRL/ BETA
00148 COMMON /RCNTRL/ COSD
00149 COMMON /RCNTRL/ CP
00150 COMMON /RCNTRL/ DAYSPY
00151 COMMON /RCNTRL/ DEC
00152 COMMON /RCNTRL/ DECMAX
00153 COMMON /RCNTRL/ DIST
00154 COMMON /RCNTRL/ DLAT
00155 COMMON /RCNTRL/ DLON
00156 COMMON /RCNTRL/ DT
00157 COMMON /RCNTRL/ ECCN
00158 COMMON /RCNTRL/ GNU1
00159 COMMON /RCNTRL/ GNU2

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SCNTRL 181

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00160      COMMON /RCNTRL/ GRAV
00161      COMMON /RCNTRL/ OMEGA2
00162      COMMON /RCNTRL/ PI
00163      COMMON /RCNTRL/ PI180
00164      COMMON /RCNTRL/ PI2
00165      COMMON /RCNTRL/ PSTD
00166      COMMON /RCNTRL/ PIMEAN
00167      COMMON /RCNTRL/ PSMAX
00168      COMMON /RCNTRL/ PSMIN
00169      COMMON /RCNTRL/ PTOP
00170      COMMON /RCNTRL/ RADE
00171      COMMON /RCNTRL/ RGAS
00172      COMMON /RCNTRL/ ROCP
00173      COMMON /RCNTRL/ RSDIST
00174      COMMON /RCNTRL/ SDAY
00175      COMMON /RCNTRL/ SEASON
00176      COMMON /RCNTRL/ SIGE (25)
00177      COMMON /RCNTRL/ SIND
00178      COMMON /RCNTRL/ SOLS
00179      COMMON /RCNTRL/ TSTD
00180      COMMON /RCNTRL/ PLEVS (25)
00181      COMMON /RCNTRL/ HEATW
00182      COMMON /RCNTRL/ HEATI
00183      COMMON /RCNTRL/ EPS
00184      COMMON /RCNTRL/ EPSFAC
00185      COMMON /RCNTRL/ CALTOJ
00186      COMMON /RCNTRL/ PZERO

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C
00187      EQUIVALENCE (RC0,RC(1))
00188      REAL          RC0, RC(200)

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C
C  INTEGER MODEL CONSTANTS
C  =====

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00189      COMMON /IDPARM/ IJUMP (46)
00190      COMMON /IDPARM/ IDSP02
00191      COMMON /IDPARM/ INDEX (72)
00192      COMMON /IDPARM/ IROD
00193      COMMON /IDPARM/ JC (46)
00194      COMMON /IDPARM/ JE (2)
00195      COMMON /IDPARM/ JP (2,2)
00196      COMMON /IDPARM/ KSTEP
00197      COMMON /IDPARM/ MJ (46)
00198      COMMON /IDPARM/ NHMS1
00199      COMMON /IDPARM/ NYMD1

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C
C  LOGICAL MODEL CONSTANTS
C  =====

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00200      COMMON /LDPARM/ FILTER (46)
00201      COMMON /LDPARM/ ITAPE
00202      COMMON /LDPARM/ START

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C
00203      LOGICAL      FILTER
00204      LOGICAL      ITAPE
00205      LOGICAL      START

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C
C  REAL MODEL CONSTANTS
C  =====

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00206      COMMON /RDPARM/ ADLDP
00207      COMMON /RDPARM/ CON1
00208      COMMON /RDPARM/ CON1DT
00209      COMMON /RDPARM/ CON2
00210      COMMON /RDPARM/ CON2DT
00211      COMMON /RDPARM/ CON3
00212      COMMON /RDPARM/ CON3DT
00213      COMMON /RDPARM/ CON4
00214      COMMON /RDPARM/ CON4DT
00215      COMMON /RDPARM/ CON5
00216      COMMON /RDPARM/ COSL (46)
00217      COMMON /RDPARM/ COSLON (72)
00218      COMMON /RDPARM/ CPD2
00219      COMMON /RDPARM/ DXP (46)

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00220 COMMON /RDPARM/ DXYP (46)
 00221 COMMON /RDPARM/ DYP (46)
 00222 COMMON /RDPARM/ FCORLS (46)
 00223 COMMON /RDPARM/ F1DT
 00224 COMMON /RDPARM/ F2DT
 00225 COMMON /RDPARM/ H1DT
 00226 COMMON /RDPARM/ H2DT
 00227 COMMON /RDPARM/ PKSTD
 00228 COMMON /RDPARM/ PKTOP
 00229 COMMON /RDPARM/ RLAT (46)
 00230 COMMON /RDPARM/ RLATD (46)
 00231 COMMON /RDPARM/ ROCPOD
 00232 COMMON /RDPARM/ ROCPD1
 00233 COMMON /RDPARM/ SGNP (2)
 00234 COMMON /RDPARM/ SINL (46)
 00235 COMMON /RDPARM/ SINLON (72)
 00236 COMMON /RDPARM/ THSTD
 00237 COMMON /RDPARM/ THSTD2
 00238 COMMON /RDPARM/ WSAVE (159)
 00239 COMMON /RDPARM/ DSIG (9)
 00240 COMMON /RDPARM/ SIG (9)

GLOBAL MODEL SURFACE FIELDS
 COMMON /QANDQT/ QS(72,19,46)

00241
 00242 DIMENSION PHIS(1368,1)
 00243 DIMENSION SMTH(1368,23)
 00244 DIMENSION ALBEDO(1368,1)
 00245 DIMENSION GT(1368,1)
 00246 DIMENSION GW(1368,1)
 00247 DIMENSION TS(1368,1)
 00248 DIMENSION SHS(1368,1)
 00249 DIMENSION P(72,19,1)
 00250 DIMENSION TMIN(1368,1)
 00251 DIMENSION TMAX(1368,1)
 00252 DIMENSION PREACC(1368,1)
 00253 DIMENSION PRFCON(1368,1)
 00254 DIMENSION HFLUX(1368,1)
 00255 DIMENSION EFLUX(1368,1)
 00256 DIMENSION FUSION(1368,1)
 00257 DIMENSION RADSWG(1368,1)
 00258 DIMENSION RADLWG(1368,1)
 00259 DIMENSION ICLOUD(1368,1)
 00260 EQUIVALENCE (QS(1,1,1),PHIS(1,1))
 00261 EQUIVALENCE (QS(1,2,1),SMTH(1,1))
 00262 EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))
 00263 EQUIVALENCE (QS(1,4,1),GT(1,1))
 00264 EQUIVALENCE (QS(1,5,1),GW(1,1))
 00265 EQUIVALENCE (QS(1,6,1),TS(1,1))
 00266 EQUIVALENCE (QS(1,7,1),SHS(1,1))
 00267 EQUIVALENCE (QS(1,8,1),P(1,1,1))
 00268 EQUIVALENCE (QS(1,10,1),TMIN(1,1))
 00269 EQUIVALENCE (QS(1,11,1),TMAX(1,1))
 00270 EQUIVALENCE (QS(1,12,1),PREACC(1,1))
 00271 EQUIVALENCE (QS(1,13,1),PRFCON(1,1))
 00272 EQUIVALENCE (QS(1,14,1),HFLUX(1,1))
 00273 EQUIVALENCE (QS(1,15,1),EFLUX(1,1))
 00274 EQUIVALENCE (QS(1,16,1),FUSION(1,1))
 00275 EQUIVALENCE (QS(1,17,1),RADSWG(1,1))
 00276 EQUIVALENCE (QS(1,18,1),RADLWG(1,1))
 00277 EQUIVALENCE (QS(1,19,1),ICLOUD(1,1))

GLOBAL MODEL UPPER-AIR FIELDS
 COMMON /QANDQT/ QU(72,9,14,46)

00278
 00279 DIMENSION U(72,9,14,1)
 00280 DIMENSION V(72,9,14,1)
 00281 DIMENSION T(72,9,14,1)
 00282 DIMENSION SH(72,9,14,1)

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60	335	321
6040	429	319
6900	430	427
900	426	

VARIABLE MAP

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VARIABLE MAP
--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

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A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

[illegible]

GW	QANDOT	REAL	ARRAY	246	264	385/S	397/S										
GW1	MNTHLY	REAL	ARRAY	304	306	380	385										
GW2	MNTHLY	REAL	ARRAY	303	306	389	391	397	397								
H1DT	RDPARM	REAL	SIMPLE	225													
H2DT	RDPARM	REAL	SIMPLE	226													
HEAT1	RCNTRL	REAL	SIMPLE	182													
HEATW	RCNTRL	REAL	SIMPLE	181													
HFLUX	QANDOT	REAL	ARRAY	254	272												
I		INTEGER	SIMPLE	314/C	315	315	353/C	354	355	355	366/C	367	367	369			
				369	369	372	372	372	384/C	385	385	396/C	397	397			
				397	409/C	410	410	421/C	422	422	422						
IC	ICNTRL	INTEGER	ARRAY	90	91												
ICO	ICNTRL	INTEGER	SIMPLE	25	90	91											
ICLOUD	QANDOT	INTEGER	ARRAY	259	277												
ICNTRL		INTEGER	UNKNOWN	25	26	27	28	29	30	31	32	33	34	35			
				36	37	38	39	40	41	42	43	44	45	46			
				47	48	49	50	51	52	53	54	55	56	57			
				58	59	60	61	62	63	64	65	66	67	68			
				69	70	71	72	73	74	75	76						
				66													
ICSP53	ICNTRL	INTEGER	SIMPLE														
ICSP55	ICNTRL	INTEGER	SIMPLE	68													
ID1ABAT	ICNTRL	INTEGER	UNKNOWN	88													
IDPARM		INTEGER	UNKNOWN	189	190	191	192	193	194	195	196	197	198	199			
IDSP02	IDPARM	INTEGER	SIMPLE	190													
IEFLUX	ICNTRL	INTEGER	UNKNOWN	82													
IFUSION	ICNTRL	INTEGER	UNKNOWN	83													
IHFLUX	ICNTRL	INTEGER	UNKNOWN	81													
IICLOUD	ICNTRL	INTEGER	UNKNOWN	86													
IJUMP	IDPARM	INTEGER	ARRAY	189	313	352	365	383	395	408	420						
IM	ICNTRL	INTEGER	SIMPLE	26	314	349	353	359	361	366	380	384	389	391			
				396	405	409	414	416	421								
IMD2	ICNTRL	INTEGER	SIMPLE	27													
IMD2P1	ICNTRL	INTEGER	SIMPLE	28													
INC		INTEGER	SIMPLE	313/S	314	352/S	353	365/S	366	383/S	384	395/S	396	408			
				409	420/S	421											
INDEX	IDPARM	INTEGER	ARRAY	191													
IOMEGA	ICNTRL	INTEGER	UNKNOWN	87													
IPREACC	ICNTRL	INTEGER	UNKNOWN	79													
IPRECON	ICNTRL	INTEGER	UNKNOWN	80													
IQS	ICNTRL	INTEGER	ARRAY	75	77	78	79	80	81	82	83	84	85	86			
IQU	ICNTRL	INTEGER	ARRAY	76	87	88	89										
IRADLWG	ICNTRL	INTEGER	UNKNOWN	85													
IRADSW	ICNTRL	INTEGER	UNKNOWN	89													
IRADSWG	ICNTRL	INTEGER	UNKNOWN	84													
IROD	IDPARM	INTEGER	SIMPLE	192													
ITAPE	IDPARM	LOGICAL	SIMPLE	201	204												
ITMAX	ICNTRL	INTEGER	UNKNOWN	78													
ITMIN	ICNTRL	INTEGER	UNKNOWN	77													
J		INTEGER	SIMPLE	312/C	313	315	315	351/C	352	364	355	355	364/C	365			
				367	367	369	369	369	372	372	372	382/C	383	385			
				385	394/C	395	397	397	397	407/C	408	410	410	419			
				420	422	422											
JC	IDPARM	INTEGER	ARRAY	193													
JE	IDPARM	INTEGER	ARRAY	194													
JIC	CCNTRL	CHAR*8	SIMPLE	5	18												
JM	ICNTRL	INTEGER	SIMPLE	30	312												
JMD2	ICNTRL	INTEGER	SIMPLE	31													
JMT2	ICNTRL	INTEGER	SIMPLE	32													
JNP	ICNTRL	INTEGER	SIMPLE	33	349	351	359	361	364	380	382	389	391	394			
				405	407	414	416	419									
JO4	ICNTRL	INTEGER	SIMPLE	34													
JO8	ICNTRL	INTEGER	SIMPLE	35													
JO8	CCNTRL	CHAR*8	SIMPLE	6	19												
JP	IDPARM	INTEGER	ARRAY	195													
JSP	ICNTRL	INTEGER	SIMPLE	36	351	364	382	394	407	419							
KLIALB	ICNTRL	INTEGER	SIMPLE	37	401												
KLIGW	ICNTRL	INTEGER	SIMPLE	38	376												
KLISST	ICNTRL	INTEGER	SIMPLE	39	345												
KS	ICNTRL	INTEGER	SIMPLE	40													
KSTEP	IDPARM	INTEGER	SIMPLE	196													

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KU	LC	LCO	LCNTRL	ICNTRL	INTEGER	SIMPLE	ARRAY
						41	143
						92	143
						92	93
						103	104
LDIABAT	LCNTRL				LOGICAL	UNKNOWN	116
LDPARM					INTEGER	UNKNOWN	200
LEFLUX	LCNTRL				LOGICAL	UNKNOWN	110
LFUSION	LCNTRL				LOGICAL	UNKNOWN	111
						109	134
LHFLUX	LCNTRL				LOGICAL	UNKNOWN	114
LICLOUD	LCNTRL				LOGICAL	UNKNOWN	42
LOGBR	LCNTRL				INTEGER	SIMPLE	115
LOMEGA	LCNTRL				LOGICAL	UNKNOWN	107
LPREACC	LCNTRL				LOGICAL	UNKNOWN	108
LPRECON	LCNTRL				LOGICAL	UNKNOWN	103
LQS	LCNTRL				LOGICAL	ARRAY	128
						104	115
LQU	LCNTRL				LOGICAL	ARRAY	113
LRADLWG	LCNTRL				LOGICAL	UNKNOWN	117
LRADSW	LCNTRL				LOGICAL	UNKNOWN	112
LRADSWG	LCNTRL				LOGICAL	UNKNOWN	106
LTMAX	LCNTRL				LOGICAL	UNKNOWN	105
LTMIN	LCNTRL				LOGICAL	UNKNOWN	344/S
LU					INTEGER	SIMPLE	308/I
LUALB					INTEGER	SIMPLE	400
LUGW					INTEGER	SIMPLE	308/I
LUST					INTEGER	SIMPLE	308/I
MATIN	ICNTRL				INTEGER	SIMPLE	43
MATSNX	ICNTRL				INTEGER	SIMPLE	44
MATSUN	ICNTRL				INTEGER	SIMPLE	45
MJ	IDPARM				INTEGER	ARRAY	197
MLP	ICNTRL				INTEGER	ARRAY	46
MNTHLY					INTEGER	UNKNOWN	303
MO1					INTEGER	SIMPLE	333/S
MO2					INTEGER	SIMPLE	334/S
MONALB					INTEGER	SIMPLE	309/I
MONGW					INTEGER	SIMPLE	309/I
MONSST					INTEGER	SIMPLE	309/I
MRQD	ICNTRL				INTEGER	SIMPLE	47
MSM	ICNTRL				INTEGER	SIMPLE	49
NB	ICNTRL				INTEGER	SIMPLE	50
ND	ICNTRL				INTEGER	SIMPLE	51
NDALT	ICNTRL				INTEGER	SIMPLE	52
NDAT					INTEGER	SIMPLE	327/S
NDAY	ICNTRL				INTEGER	SIMPLE	53
NDHOG	ICNTRL				INTEGER	SIMPLE	74
NDOUT	ICNTRL				INTEGER	SIMPLE	54
NDPHY	ICNTRL				INTEGER	SIMPLE	55
NDRSW	ICNTRL				INTEGER	SIMPLE	29
NDSHF	ICNTRL				INTEGER	SIMPLE	56
NDT	ICNTRL				INTEGER	SIMPLE	57
NHMS	ICNTRL				INTEGER	SIMPLE	58
NHMS0	ICNTRL				INTEGER	SIMPLE	60
NHMS1	IDPARM				INTEGER	SIMPLE	198
NHMS2	ICNTRL				INTEGER	SIMPLE	59
NKRSH	ICNTRL				INTEGER	SIMPLE	48
NLAY	ICNTRL				INTEGER	SIMPLE	61
NLAYM1	ICNTRL				INTEGER	SIMPLE	62
NLAYP1	ICNTRL				INTEGER	SIMPLE	63
NMLEV	ICNTRL				INTEGER	SIMPLE	73
NMON					INTEGER	SIMPLE	326/S
NMON1					INTEGER	SIMPLE	330/S
NMON2					INTEGER	SIMPLE	332/S
NSDAY	ICNTRL				INTEGER	SIMPLE	64
NSEQ	ICNTRL				INTEGER	SIMPLE	65
NSTEP	ICNTRL				INTEGER	SIMPLE	67
NYMD	ICNTRL				INTEGER	SIMPLE	69
NYMD0	ICNTRL				INTEGER	SIMPLE	71
						199	
NYMD1	IDPARM				INTEGER	SIMPLE	

DAILY 13

NYMDE	ICNTRL	INTEGER	SIMPLE	70																	
NZINIT	ICNTRL	INTEGER	SIMPLE	72																	
OMEGA	QANDQT	REAL	ARRAY	284	293																
OMEGA2	RCNTRL	REAL	SIMPLE	161																	
P	QANDQT	REAL	ARRAY	249	267	315/S	315														
PHI	QANDQT	REAL	ARRAY	283	292																
PHIP	QPOLES	REAL	ARRAY	302																	
PHIS	QANDQT	REAL	ARRAY	242	260																
PI	RCNTRL	REAL	SIMPLE	162	339	340															
PI180	RCNTRL	REAL	SIMPLE	163																	
PI2	RCNTRL	REAL	SIMPLE	164																	
PMEAN	RCNTRL	REAL	SIMPLE	166	311	319/W															
PKSTD	RDPARM	REAL	SIMPLE	227																	
PKTOP	RDPARM	REAL	SIMPLE	228																	
PLEVS	RCNTRL	REAL	ARRAY	180																	
PP	QPOLES	REAL	ARRAY	297	317/S	317	318/S	318													
PREACC	QANDQT	REAL	ARRAY	252	270																
PRECON	QANDQT	REAL	ARRAY	253	271																
PSMAX	RCNTRL	REAL	SIMPLE	167																	
PSMIN	RCNTRL	REAL	SIMPLE	168																	
PSTD	RCNTRL	REAL	SIMPLE	165																	
PTOP	RCNTRL	REAL	SIMPLE	169																	
PZERO	RCNTRL	REAL	SIMPLE	186																	
QALT	LCNTRL	LOGICAL	SIMPLE	93	118																
QANDQT	LCNTRL	LOGICAL	UNKNOWN	241	278																
QBEG	LCNTRL	LOGICAL	SIMPLE	94	119																
QDAY	LCNTRL	LOGICAL	SIMPLE	95	120																
QEND	LCNTRL	LOGICAL	SIMPLE	96	121																
QOUT	LCNTRL	LOGICAL	SIMPLE	97	122																
QPHY	LCNTRL	LOGICAL	SIMPLE	98	123																
QPOLES	REAL	UNKNOWN	297	298	299	300	301	302													
QRSH	LCNTRL	LOGICAL	SIMPLE	102	127																
QRSW	LCNTRL	LOGICAL	SIMPLE	101	126																
QS	QANDQT	REAL	ARRAY	241	260	261	262	263	264	265	266	267	268	269							
				270	271	272	273	274	275	276	277										
QSHF	LCNTRL	LOGICAL	SIMPLE	99	124																
QU	QANDQT	REAL	ARRAY	278	288	289	290	291	292	293	294	295	296								
RADE	RCNTRL	REAL	SIMPLE	170																	
RADLW	QANDQT	REAL	ARRAY	287	296																
RADLWG	QANDQT	REAL	ARRAY	258	276																
RADSW	QANDQT	REAL	ARRAY	286	295																
RADSWG	QANDQT	REAL	ARRAY	257	275																
RC	RCNTRL	REAL	ARRAY	187	188																
RCO	RCNTRL	REAL	SIMPLE	145	187	188															
RCNTRL		REAL	UNKNOWN	146	147	148	149	150	151	152	153	154	155								
				156	157	158	159	160	161	162	163	164	165	166							
				167	168	169	170	171	172	173	174	175	176	177							
				178	179	180	181	182	183	184	185	186									
RDPARM	REAL	UNKNOWN	206	207	208	209	210	211	212	213	214	215	216	217							
			217	218	219	220	221	222	223	224	225	226	227								
			228	229	230	231	232	233	234	235	236	237	238								
			239	240																	
RGAS	RCNTRL	REAL	SIMPLE	171																	
RLAT	RDPARM	REAL	ARRAY	229																	
RLATD	RDPARM	REAL	ARRAY	230																	
ROCP	RCNTRL	REAL	SIMPLE	172																	
ROCPDT	RDPARM	REAL	SIMPLE	231																	
ROCPP1	RDPARM	REAL	SIMPLE	232																	
RSDIST	RCNTRL	REAL	SIMPLE	173	340/S																
SDAY	RCNTRL	REAL	SIMPLE	174																	
SEASON	RCNTRL	REAL	SIMPLE	175	337/S	339															
SGNP	RDPARM	REAL	ARRAY	233																	
SH	QANDQT	REAL	ARRAY	282	291																
SHP	QPOLES	REAL	ARRAY	301																	
SHS	QANDQT	REAL	ARRAY	248	266																
SIG	RDPARM	REAL	ARRAY	240																	
SIGE	RCNTRL	REAL	ARRAY	176																	
SIND	RCNTRL	REAL	SIMPLE	177	341/S																
SINL	RDPARM	REAL	ARRAY	234																	
SINLON	RDPARM	REAL	ARRAY	235																	

SMTH	QANDQT	REAL	ARRAY	243	261														
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125														
SOLS	RCNTRL	REAL	SIMPLE	178	337														
START	LDPARM	LOGICAL	SIMPLE	202	205														
T	QANDQT	REAL	ARRAY	281	290														
THSTD	RDPARM	REAL	SIMPLE	236															
THSTD2	RDPARM	REAL	SIMPLE	237															
TMAX	QANDQT	REAL	ARRAY	251	269														
TMIN	QANDQT	REAL	ARRAY	250	268														
TOPOG1	MNTHLY	REAL	ARRAY	304	305	349	354	355											
TOPOG2	MNTHLY	REAL	ARRAY	303	305	359	361	367	367	369	369	372	372						
TP	QPOLES	REAL	ARRAY	300															
TS	QANDQT	REAL	ARRAY	247	265														
TSTD	RCNTRL	REAL	SIMPLE	179															
U	QANDQT	REAL	ARRAY	279	288														
UP	QPOLES	REAL	ARRAY	298															
V	QANDQT	REAL	ARRAY	280	289														
VER	CCNTRL	CHAR*B	SIMPLE	10	23														
VP	QPOLES	REAL	ARRAY	299															
WSAVE	RDPARM	REAL	ARRAY	238															
XLABEL	CCNTRL	CHAR*B	ARRAY	11	24														

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT	FN	DEF.	A=ARGLIST												
AMAXI	REAL	INTRINSIC	369																
COS	REAL	INTRINSIC	339	340	342														
INCYMD	INTEGER	FUNCTION	323																
MOD	INTEGER	INTRINSIC	325	326	327	328	331	332	333	334									
PMEAN	REAL	FUNCTION	311																
RDCLI		SUBROUTINE	349	359	361	380	389	391	405	414	416								
SIGN	REAL	INTRINSIC	367	367															
SIN	REAL	INTRINSIC	341																

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00001 SUBROUTINE DEFALT
C .....
C PURPOSE
C SET DEFAULTS TO MODEL PARAMETERS BEFORE READING NAMELIST
C CALLED BY INPUT ONLY
C .....
C USAGE
C .....
C ARGUMENTS DESCRIPTION
C NONE
C .....
C SUBPROGRAMS NEEDED
C NAME DESCRIPTION
C NONE
C .....
C RECORD OF MODIFICATIONS
C BASED ON OLD VERSION 8.
C .....
C ?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS?
C 05/19/83 RAMESH THIS PART AND COMMENTS
C .....
C REMARKS:
C ( 1 ) ?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.?
C .....
C M / A - C O M S I G M A D A T A I N C . N A S A - G S F C
C .....
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C .....
00002 COMMON /CCNTRL/ CCO
00003 COMMON /CCNTRL/ ADATE
00004 COMMON /CCNTRL/ ATIME
00005 COMMON /CCNTRL/ JIC
00006 COMMON /CCNTRL/ JOB
00007 COMMON /CCNTRL/ CCSP06
00008 COMMON /CCNTRL/ CCSP07
00009 COMMON /CCNTRL/ CCSP08
00010 COMMON /CCNTRL/ VER
00011 COMMON /CCNTRL/ XLABEL (10)
00012 COMMON /CCNTRL/ CQS (30)
00013 COMMON /CCNTRL/ CQU (10)
C .....
00014 EQUIVALENCE (CCO,CC(1))
00015 CHARACTER*8 CCO, CC(200)
00016 CHARACTER*8 ADATE
00017 CHARACTER*8 ATIME
00018 CHARACTER*8 JIC
00019 CHARACTER*8 JOB
00020 CHARACTER*8 CCSP06
00021 CHARACTER*8 CCSP07
00022 CHARACTER*8 CCSP08
00023 CHARACTER*8 VER
00024 CHARACTER*8 XLABEL
C .....
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C .....
00025 COMMON /ICNTRL/ ICO
00026 COMMON /ICNTRL/ IM
00027 COMMON /ICNTRL/ IMD2
00028 COMMON /ICNTRL/ IMD2P1
00029 COMMON /ICNTRL/ NDRSW
00030 COMMON /ICNTRL/ JM
00031 COMMON /ICNTRL/ JMD2
00032 COMMON /ICNTRL/ JMT2
00033 COMMON /ICNTRL/ JNP
00034 COMMON /ICNTRL/ JO4
00035 COMMON /ICNTRL/ JOB
00036 COMMON /ICNTRL/ JSP
00037 COMMON /ICNTRL/ KLIALB
00038 COMMON /ICNTRL/ KLIGW

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SDEFALT 2
SDEFALT 3
SDEFALT 4
SDEFALT 5
SDEFALT 6
SDEFALT 7
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SCNTRL 44
SCNTRL 45

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00039	COMMON /ICNTRL/ KLISST	SCNTRL 46
00040	COMMON /ICNTRL/ KS	SCNTRL 47
00041	COMMON /ICNTRL/ KU	SCNTRL 48
00042	COMMON /ICNTRL/ LOGBR	SCNTRL 49
00043	COMMON /ICNTRL/ MATIN	SCNTRL 50
00044	COMMON /ICNTRL/ MATSNX	SCNTRL 51
00045	COMMON /ICNTRL/ MATSUN	SCNTRL 52
00046	COMMON /ICNTRL/ MLF (12)	SCNTRL 53
00047	COMMON /ICNTRL/ MROD	SCNTRL 54
00048	COMMON /ICNTRL/ NKRSH	SCNTRL 55
00049	COMMON /ICNTRL/ MSM	SCNTRL 56
00050	COMMON /ICNTRL/ NB	SCNTRL 57
00051	COMMON /ICNTRL/ ND	SCNTRL 58
00052	COMMON /ICNTRL/ NDALT	SCNTRL 59
00053	COMMON /ICNTRL/ NDAY	SCNTRL 60
00054	COMMON /ICNTRL/ NDOUT	SCNTRL 61
00055	COMMON /ICNTRL/ NDPHY	SCNTRL 62
00056	COMMON /ICNTRL/ NDSHF	SCNTRL 63
00057	COMMON /ICNTRL/ NDT	SCNTRL 64
00058	COMMON /ICNTRL/ NHMS	SCNTRL 65
00059	COMMON /ICNTRL/ NHMSE	SCNTRL 66
00060	COMMON /ICNTRL/ NHMSO	SCNTRL 67
00061	COMMON /ICNTRL/ NLAY	SCNTRL 68
00062	COMMON /ICNTRL/ NLAYM1	SCNTRL 69
00063	COMMON /ICNTRL/ NLAYP1	SCNTRL 70
00064	COMMON /ICNTRL/ NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMD0	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
C		SCNTRL 84
00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 85
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 86
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 87
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 88
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 89
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 91
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 92
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 93
00086	EQUIVALENCE (IICLOUD ,IQS(10))	SCNTRL 94
C		SCNTRL 95
00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 96
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 97
00089	EQUIVALENCE (IRAOSW ,IQU(3))	SCNTRL 98
C		SCNTRL 99
00090	EQUIVALENCE (IC0,IC(1))	SCNTRL 100
00091	INTEGER IC0, IC(200)	SCNTRL 101
C		SCNTRL 102
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL 103
C	=====	SCNTRL 104
00092	COMMON /LCNTRL/ LCO	SCNTRL 105
00093	COMMON /LCNTRL/ QALT	SCNTRL 106
00094	COMMON /LCNTRL/ QBEG	SCNTRL 107
00095	COMMON /LCNTRL/ QDAY	SCNTRL 108
00096	COMMON /LCNTRL/ QEND	SCNTRL 109
00097	COMMON /LCNTRL/ QOUT	SCNTRL 110
00098	COMMON /LCNTRL/ QPHY	SCNTRL 111
00099	COMMON /LCNTRL/ QSHF	SCNTRL 112
00100	COMMON /LCNTRL/ SN2FLG	SCNTRL 113
00101	COMMON /LCNTRL/ QRSW	SCNTRL 114
00102	COMMON /LCNTRL/ QRSR	SCNTRL 115
00103	COMMON /LCNTRL/ LQS(30)	SCNTRL 116

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00104      COMMON /LCNTRL/ LQU(10)
C
00105      EQUIVALENCE (LTMIN ,LQS( 1))
00106      EQUIVALENCE (LTMAX ,LQS( 2))
00107      EQUIVALENCE (LPREACC ,LQS( 3))
00108      EQUIVALENCE (LPRECON ,LQS( 4))
00109      EQUIVALENCE (LHFLUX ,LQS( 5))
00110      EQUIVALENCE (LEFLUX ,LQS( 6))
00111      EQUIVALENCE (LFUSION ,LQS( 7))
00112      EQUIVALENCE (LRADSWG ,LQS( 8))
00113      EQUIVALENCE (LRADLWG ,LQS( 9))
00114      EQUIVALENCE (LICLOUD ,LQS(10))
C
00115      EQUIVALENCE (LOMEGA ,LQU( 1))
00116      EQUIVALENCE (LDIABAT ,LQU( 2))
00117      EQUIVALENCE (LRADSW ,LQU( 3))
C
00118      LOGICAL      QALT
00119      LOGICAL      QBEG
00120      LOGICAL      QDAY
00121      LOGICAL      QEND
00122      LOGICAL      QOUT
00123      LOGICAL      QPHY
00124      LOGICAL      QSHF
00125      LOGICAL      SN2FLG
00126      LOGICAL      QRSW
00127      LOGICAL      QRSW
C
00128      LOGICAL      LQS
00129      LOGICAL      LQU
00130      LOGICAL      LTMIN
00131      LOGICAL      LTMAX
00132      LOGICAL      LPREACC
00133      LOGICAL      LPRECON
00134      LOGICAL      LHFLUX
00135      LOGICAL      LEFLUX
00136      LOGICAL      LFUSION
00137      LOGICAL      LRADSWG
00138      LOGICAL      LRADLWG
00139      LOGICAL      LICLOUD
C
00140      LOGICAL      LOMEGA
00141      LOGICAL      LDIABAT
00142      LOGICAL      LRADSW
C
00143      EQUIVALENCE (LC0,LQ(1))
00144      LOGICAL      LC0, LC(200)
C
C REAL MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00145      COMMON /RCNTRL/ RQ0
00146      COMMON /RCNTRL/ APHEL
00147      COMMON /RCNTRL/ BETA
00148      COMMON /RCNTRL/ COSD
00149      COMMON /RCNTRL/ CP
00150      COMMON /RCNTRL/ DAYSPY
00151      COMMON /RCNTRL/ DEC
00152      COMMON /RCNTRL/ DECMAX
00153      COMMON /RCNTRL/ DIST
00154      COMMON /RCNTRL/ DLAT
00155      COMMON /RCNTRL/ DLON
00156      COMMON /RCNTRL/ DT
00157      COMMON /RCNTRL/ ECCN
00158      COMMON /RCNTRL/ GNU1
00159      COMMON /RCNTRL/ GNU2
00160      COMMON /RCNTRL/ GRAV
00161      COMMON /RCNTRL/ OMEGA2
00162      COMMON /RCNTRL/ P1
00163      COMMON /RCNTRL/ P180
00164      COMMON /RCNTRL/ P12
00165      COMMON /RCNTRL/ PSTD

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SCNTRL 117
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00166 COMMON /RCNTRL/ PIMEAN
00167 COMMON /RCNTRL/ PSMAX
00168 COMMON /RCNTRL/ PSMIN
00169 COMMON /RCNTRL/ PTOP
00170 COMMON /RCNTRL/ RADE
00171 COMMON /RCNTRL/ RGAS
00172 COMMON /RCNTRL/ ROCP
00173 COMMON /RCNTRL/ RSDIST
00174 COMMON /RCNTRL/ SDAY
00175 COMMON /RCNTRL/ SEASON
00176 COMMON /RCNTRL/ SIGE (25)
00177 COMMON /RCNTRL/ SIND
00178 COMMON /RCNTRL/ SOLS
00179 COMMON /RCNTRL/ TSTD
00180 COMMON /RCNTRL/ PLEVS (25)
00181 COMMON /RCNTRL/ HEATW
00182 COMMON /RCNTRL/ HEATI
00183 COMMON /RCNTRL/ EPS
00184 COMMON /RCNTRL/ EPSFAC
00185 COMMON /RCNTRL/ CALTOJ
00186 COMMON /RCNTRL/ PZERO

C
00187 EQUIVALENCE (RCO,RC(1))
00188 REAL RCO, RC(200)

C
C INTEGER MODEL CONSTANTS
C =====
00189 COMMON /IDPARM/ IJUMP (46)
00190 COMMON /IDPARM/ IDSP02
00191 COMMON /IDPARM/ INDEX (72)
00192 COMMON /IDPARM/ IROD
00193 COMMON /IDPARM/ JC (46)
00194 COMMON /IDPARM/ JE (2)
00195 COMMON /IDPARM/ JP (2,2)
00196 COMMON /IDPARM/ KSTEP
00197 COMMON /IDPARM/ MJ (46)
00198 COMMON /IDPARM/ NHMS1
00199 COMMON /IDPARM/ NYMD1

C
C LOGICAL MODEL CONSTANTS
C =====
00200 COMMON /LDPARM/ FILTER (46)
00201 COMMON /LDPARM/ ITAPE
00202 COMMON /LDPARM/ START

C
00203 LOGICAL FILTER
00204 LOGICAL ITAPE
00205 LOGICAL START

C
C REAL MODEL CONSTANTS
C =====
00206 COMMON /RDPARM/ ADLDP
00207 COMMON /RDPARM/ CON1
00208 COMMON /RDPARM/ CON1DT
00209 COMMON /RDPARM/ CON2
00210 COMMON /RDPARM/ CON2DT
00211 COMMON /RDPARM/ CON3
00212 COMMON /RDPARM/ CON3DT
00213 COMMON /RDPARM/ CON4
00214 COMMON /RDPARM/ CON4DT
00215 COMMON /RDPARM/ CON5
00216 COMMON /RDPARM/ COSL (46)
00217 COMMON /RDPARM/ COSLON (72)
00218 COMMON /RDPARM/ CPD2
00219 COMMON /RDPARM/ DXP (46)
00220 COMMON /RDPARM/ DXYP (46)
00221 COMMON /RDPARM/ DYP (46)
00222 COMMON /RDPARM/ FCORLS (46)
00223 COMMON /RDPARM/ F1DT
00224 COMMON /RDPARM/ F2DT
00225 COMMON /RDPARM/ H1DT

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SCNTRL 188
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SCNTRL 191
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SCNTRL 254
SCNTRL 255
SCNTRL 256
SCNTRL 257
SCNTRL 258

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00226 COMMON /RDPARM/ H2DT
00227 COMMON /RDPARM/ PKSTD
00228 COMMON /RDPARM/ PKTOP
00229 COMMON /RDPARM/ RLAT (46)
00230 COMMON /RDPARM/ RLATD (46)
00231 COMMON /RDPARM/ ROCPDT
00232 COMMON /RDPARM/ ROCPPT
00233 COMMON /RDPARM/ SGNP (2)
00234 COMMON /RDPARM/ SINL (46)
00235 COMMON /RDPARM/ SINLON (72)
00236 COMMON /RDPARM/ THSTD
00237 COMMON /RDPARM/ THSTD2
00238 COMMON /RDPARM/ WSAVE (159)
00239 COMMON /RDPARM/ DSIG (9)
00240 COMMON /RDPARM/ SIG (9)

```

```

C
C * * *
C IDENTIFYING LABELS OF MODEL HISTORY RECORD QUANTITIES
00241 COMMON /CORDER/ XORDS(19), XORDU(14)
00242 CHARACTER*8 XORDS, XORDU

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```

C * * *
C GLOBAL MODEL SURFACE FIELDS
00243 COMMON /QANDQT/ QS(72,19,46)

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```

00244 DIMENSION PHIS(1368,1)
00245 DIMENSION SMTH(1368,23)
00246 DIMENSION ALBEDO(1368,1)
00247 DIMENSION GT(1368,1)
00248 DIMENSION GW(1368,1)
00249 DIMENSION TS(1368,1)
00250 DIMENSION SHS(1368,1)
00251 DIMENSION P(72,19,1)
00252 DIMENSION TMIN(1368,1)
00253 DIMENSION TMAX(1368,1)
00254 DIMENSION PREACC(1368,1)
00255 DIMENSION PRECON(1368,1)
00256 DIMENSION HFLUX(1368,1)
00257 DIMENSION EFLUX(1368,1)
00258 DIMENSION FUSION(1368,1)
00259 DIMENSION RADSWG(1368,1)
00260 DIMENSION RADLWG(1368,1)
00261 DIMENSION ICLOUD(1368,1)

```

```

C
00262 EQUIVALENCE (QS(1,1,1),PHIS(1,1))
00263 EQUIVALENCE (QS(1,2,1),SMTH(1,1))
00264 EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))
00265 EQUIVALENCE (QS(1,4,1),GT(1,1))
00266 EQUIVALENCE (QS(1,5,1),GW(1,1))
00267 EQUIVALENCE (QS(1,6,1),TS(1,1))
00268 EQUIVALENCE (QS(1,7,1),SHS(1,1))
00269 EQUIVALENCE (QS(1,8,1),P(1,1,1))
00270 EQUIVALENCE (QS(1,10,1),TMIN(1,1))
00271 EQUIVALENCE (QS(1,11,1),TMAX(1,1))
00272 EQUIVALENCE (QS(1,12,1),PREACC(1,1))
00273 EQUIVALENCE (QS(1,13,1),PRECON(1,1))
00274 EQUIVALENCE (QS(1,14,1),HFLUX(1,1))
00275 EQUIVALENCE (QS(1,15,1),EFLUX(1,1))
00276 EQUIVALENCE (QS(1,16,1),FUSION(1,1))
00277 EQUIVALENCE (QS(1,17,1),RADSWG(1,1))
00278 EQUIVALENCE (QS(1,18,1),RADLWG(1,1))
00279 EQUIVALENCE (QS(1,19,1),ICLOUD(1,1))

```

```

C * * *
C GLOBAL MODEL UPPER-AIR FIELDS
00280 COMMON /QANDQT/ QU(72,9,14,46)

```

```

C
00281 DIMENSION U(72,9,14,1)
00282 DIMENSION V(72,9,14,1)
00283 DIMENSION T(72,9,14,1)
00284 DIMENSION SH(72,9,14,1)
00285 DIMENSION PHI(72,9,14,1)
00286 DIMENSION OMEGA(72,126,1)

```

```

SCNTPL 259
SCNTRL 260
SCNTRL 261
SCNTRL 262
SCNTRL 263
SCNTRL 264
SCNTRL 265
SCNTRL 266
SCNTRL 267
SCNTRL 268
SCNTRL 269
SCNTRL 270
SCNTRL 271
SCNTRL 272
SCNTRL 273
SCNTRL 274
SCORDER 2
SCORDER 3
SCORDER 4
SCORDER 5
SQANDQT 2
SQANDQT 3
SQANDQT 4
SQANDQT 5
SQANDQT 6
SQANDQT 7
SQANDQT 8
SQANDQT 9
SQANDQT 10
SQANDQT 11
SQANDQT 12
SQANDQT 13
SQANDQT 14
SQANDQT 15
SQANDQT 16
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SQANDQT 44
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SQANDQT 47
SQANDQT 48
SQANDQT 49
SQANDQT 50
SQANDQT 51
SQANDQT 52

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00287      DIMENSION      DIABAT(72,126,1)
00288      DIMENSION      RADSW(72,126,1)
00289      DIMENSION      RADLW(72,126,1)

00290      C      EQUIVALENCE      (QU(1,1,1,1),U(1,1,1,1))
00291      EQUIVALENCE      (QU(1,1,3,1),V(1,1,1,1))
00292      EQUIVALENCE      (QU(1,1,5,1),T(1,1,1,1))
00293      EQUIVALENCE      (QU(1,1,7,1),SH(1,1,1,1))
00294      EQUIVALENCE      (QU(1,1,9,1),PHI(1,1,1,1))
00295      EQUIVALENCE      (QU(1,1,11,1),OMEGA(1,1,1,1))
00296      EQUIVALENCE      (QU(1,1,12,1),DIABAT(1,1,1))
00297      EQUIVALENCE      (QU(1,1,13,1),RADSW(1,1,1))
00298      EQUIVALENCE      (QU(1,1,14,1),RADLW(1,1,1))

00299      C      ONE-DIMENSIONAL WORK AREAS
00300      COMMON      CARD(10), DATA(144), CATA(144)
00301      COMMON      PK(72,9), PT(72,9)
00301      CHARACTER*8      CARD

00302      C      CHARACTER*8 BLANK//
00303      C      SET DEFAULT VALUES FOR XORDS
00303      DATA XORDS /BPHIS      ,BHSMTN      ,BHALBEDO      ,BHGT
&      ,BHGW      ,BHST      ,BHSHS      ,BHP      1,
&      ,BHP      2,BHTMIN      ,BHTMAX      ,BHPREACC      ,
&      ,BHPRECON      ,BHHFLUX      ,BHEFLUX      ,BHFUSION      ,
&      ,BHRADSW      ,BHRADLW      ,BHCLOUD      /

00304      C      DATA XORDU /BHU      1,BHU      2,BHV      1,BHV      2,
&      ,BHT      1,BHT      2,BHSH      1,BHSH      2,
&      ,BHPHI      1,BHPHI      2,BHOMEGA      ,BHDIBAT      ,
&      ,BHRADSW      ,BHRADLW      /

00305      C      DEBUG
10000      CONTINUE
      CYBER SCALAR VERSION 04.001 INPUT,IOQ
      CYBER SCALAR VERSION 04.000
      CYBER SCALAR VERSION 00
      C      SET DEFAULT VALUES FOR CC
      C      JIC = JOB
      C      JOB = BLANK
      C      DO 10 K=1,10
      C      XLABEL(K) = BLANK
      C      CONTINUE
      C      SET DEFAULT VALUES FOR IC
      C      IROD = 0
      C      JO4 = 0
      C      JOB = 0
      C      KLIALB = 1
      C      KLIGW = 1
      C      KLISST = 1
      C      MATIN = 1

```

```

SQANDQT 53
SQANDQT 54
SQANDQT 55
SQANDQT 56
SQANDQT 57
SQANDQT 58
SQANDQT 59
SQANDQT 60
SQANDQT 61
SQANDQT 62
SQANDQT 63
SQANDQT 64
SQANDQT 65
SQANDQT 66
SWORKID 2
SWORKID 3
SWORKID 4
SWORKID 5
SWORKID 6
SWORKID 7
SDEFALT 33
SDEFALT 34
SDEFALT 35
SDEFALT 36
SDEFALT 37
SDEFALT 38
SDEFALT 39
SDEFALT 40
SDEFALT 41
SDEFALT 42
SDEFALT 43
SDEFALT 44
SDEFALT 45
SDEFALT 46
SDEFALT 47
SDEFALT 48
SDEFALT 49
SDEFALT 50
SDEFALT 51
SBEGDEB 2
SBEGDEB 3
SBEGDEB 4
SBEGDEB 5
SBEGDEB 6
SBEGDEB 7
SDEFALT 53
SDEFALT 54
SDEFALT 55
SDEFALT 56
SDEFALT 57
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SDEFALT 77
SDEFALT 78

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```

00318 MATSNX = 0
00319 MATSUN = -1
00320 MLF(1) = 1
00321 DO 20 N=2,12
00322 MLF(N) = 0
00323 20 CONTINUE
00324 MROD = 25
00325 NDALT = 0
00326 NDOUT = 30000
00327 NORSW = 50000
00328 NKRSN = -1
00329 NDPHY = 3000
00330 NDT = 43200/IM
00331 NHMS0 = NHMS1
00332 NHMS2 = NHMS1
00333 NSEQ = 1
00334 NDSHF = 23000
00335 NSTEP = 0
00336 NYMDO = NYMD1
00337 NYMDE = NYMD1

```

```

*****
***** SET DEFAULT VALUES FOR LC *****
*****

```

```

00338 SN2FLG = .FALSE.

```

```

*****
***** SET DEFAULT VALUES FOR RC *****
*****

```

```

00339 GNU2 = 0.
00340 PSTD = 1000.
00341 PIMEAN = PMEAN(NB)
00342 PSMAX = 1200
00343 PSMIN = 300.
00344 DO 30 L=1,NLAYP1
00345 SIGE(L) = FLOAT(L-1)/NLAY
00346 30 CONTINUE
00347 TSTD = 280.

```

```

*****
***** SET DEFAULT VALUES FOR SMTH *****
*****

```

```

00348 DPI = ACOS(-1.)
00349 DLONG = 2.*DPI/IM
00350 DNORM = 2.*JM/IM
00351 IWAVE = IM/2
00352 DO 60 I=1,IWAVE
00353 SMTH(I,1) = 1.
00354 SMTH(I,JM+1) = 1.
00355 DATA(I) = (8.*SIN(I*DLONG) - SIN(I*DLONG*2.))/(6.*DNORM)
00356 60 CONTINUE
00357 DL = DPI/JM
00358 D = -.5*DPI
00359 DO 70 J=2,JM
00360 D = D + DL
00361 COSJ = COS(D)
00362 DO 70 I=1,IWAVE
00363 SMTH(I,J) = AMIN1(COSJ/DATA(I),1.)
00364 70 CONTINUE
00365 RETURN
00366 END

```

```

SDEFALT 79
SDEFALT 80
SDEFALT 81
SDEFALT 82
SDEFALT 83
SDEFALT 84
SDEFALT 85
SDEFALT 86
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SDEFALT 148

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DEFLT 7

STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10	310	308
10000	305	
20	323	321
30	346	344
60	356	352
70	364	359 362

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

ADATE	CCNTRL	CHAR*8	SIMPLE	3	16										
ADLDP	RDPARM	REAL	SIMPLE	206											
ALBEDO	QANDQT	REAL	ARRAY	246	264										
APHEL	RCNTRL	REAL	SIMPLE	146											
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17										
BETA	RCNTRL	REAL	SIMPLE	147											
BLANK		CHAR*8	SIMPLE	302/1	307	309									
CALTOJ	RCNTRL	REAL	SIMPLE	185											
CARD	//	CHAR*8	ARRAY	299	301										
CATA	//	REAL	ARRAY	299											
CC	CCNTRL	CHAR*8	ARRAY	14	15										
CCO	CCNTRL	CHAR*8	SIMPLE	2	14	15									
CCNTRL		REAL	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12	
				13											
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20										
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21										
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22										
CON1	RDPARM	REAL	SIMPLE	207											
CON1DT	RDPARM	REAL	SIMPLE	208											
CON2	RDPARM	REAL	SIMPLE	209											
CON2DT	RDPARM	REAL	SIMPLE	210											
CON3	RDPARM	REAL	SIMPLE	211											
CON3DT	RDPARM	REAL	SIMPLE	212											
CON4	RDPARM	REAL	SIMPLE	213											
CON4DT	RDPARM	REAL	SIMPLE	214											
CON5	RDPARM	REAL	SIMPLE	215											
CORDER		REAL	UNKNOWN	241											
COSD	RCNTRL	REAL	SIMPLE	148											
COSJ		REAL	SIMPLE	361/S	363										
COSL	RDPARM	REAL	ARRAY	216											
COSLON	RDPARM	REAL	ARRAY	217											
CP	RCNTRL	REAL	SIMPLE	149											
CPD2	RDPARM	REAL	SIMPLE	218											
CQS	CCNTRL	REAL	ARRAY	12											
CQU	CCNTRL	REAL	ARRAY	13											
D		REAL	SIMPLE	358/S	360/S	360	361								
DATA	//	REAL	ARRAY	299	358/S	363									
DAYSPLY	RCNTRL	REAL	SIMPLE	150											
DEC	RCNTRL	REAL	SIMPLE	151											
DECMAX	RCNTRL	REAL	SIMPLE	152											
DEFAULT			SUBROUTINE	1											
DIABAT	QANDQT	REAL	ARRAY	287	296										
DIST	RCNTRL	REAL	SIMPLE	153											
DL		REAL	SIMPLE	357/S	360										
DLAT	RCNTRL	REAL	SIMPLE	154											
DLON	RCNTRL	REAL	SIMPLE	155											
DLONG		REAL	SIMPLE	349/S	355	355									
DNORM		REAL	SIMPLE	350/S	355										
DPI		REAL	SIMPLE	348/S	349	357	358								
DSIG	RDPARM	REAL	ARRAY	239											
DT	RCNTRL	REAL	SIMPLE	156											
DXP	RDPARM	REAL	ARRAY	219											
DXYP	RDPARM	REAL	ARRAY	220											
DYP	RDPARM	REAL	ARRAY	221											
ECCN	RCNTRL	REAL	SIMPLE	157											
EFLUX	QANDQT	REAL	ARRAY	257	275										
EPS	RCNTRL	REAL	SIMPLE	183											

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EPSFAC	RCNTRL	REAL	SIMPLE	184															
F1DT	RDPARM	REAL	SIMPLE	223															
F2DT	RDPARM	REAL	SIMPLE	224															
FGORLS	RDPARM	REAL	ARRAY	222															
FILTER	LDPARM	LOGICAL	ARRAY	200	203														
FUSION	QANDQT	REAL	ARRAY	258	276														
GNU1	RCNTRL	REAL	SIMPLE	158															
GNU2	RCNTRL	REAL	SIMPLE	159	339/S														
GRAV	RCNTRL	REAL	SIMPLE	160															
GT	QANDQT	REAL	ARRAY	247	265														
GW	QANDQT	REAL	ARRAY	248	266														
H1DT	RDPARM	REAL	SIMPLE	225															
H2DT	RDPARM	REAL	SIMPLE	226															
HEATI	RCNTRL	REAL	SIMPLE	182															
HEATW	RCNTRL	REAL	SIMPLE	181															
HFLUX	QANDQT	REAL	ARRAY	256	274														
I		INTEGER	SIMPLE	352/C	353	354	355	355	355	355	362/C	363	363						
IC	ICNTRL	INTEGER	ARRAY	90	91														
ICO	ICNTRL	INTEGER	SIMPLE	25	90	91													
ICLOUD	QANDQT	INTEGER	ARRAY	261	279														
ICNTRL		INTEGER	UNKNOWN	25	26	27	28	29	30	31	32	33	34	35					
				36	37	38	39	40	41	42	43	44	45	46					
				47	48	49	50	51	52	53	54	55	56	57					
				58	59	60	61	62	63	64	65	66	67	68					
				69	70	71	72	73	74	75	76								
ICSP53	ICNTRL	INTEGER	SIMPLE	66															
ICSP55	ICNTRL	INTEGER	SIMPLE	68															
IDIABAT	ICNTRL	INTEGER	UNKNOWN	88															
IDPARM		INTEGER	UNKNOWN	189	190	191	192	193	194	195	196	197	198	199					
IDSP02	IDPARM	INTEGER	SIMPLE	190															
IEFLUX	ICNTRL	INTEGER	UNKNOWN	82															
IFUSION	ICNTRL	INTEGER	UNKNOWN	83															
IHFLUX	ICNTRL	INTEGER	UNKNOWN	81															
IICLOUD	ICNTRL	INTEGER	UNKNOWN	86															
IJUMP	IDPARM	INTEGER	ARRAY	189															
IM	ICNTRL	INTEGER	SIMPLE	26	330	349	350	351											
IMD2	ICNTRL	INTEGER	SIMPLE	27															
IMD2P1	ICNTRL	INTEGER	SIMPLE	28															
INDEX	IDPARM	INTEGER	ARRAY	191															
IONEGA	ICNTRL	INTEGER	UNKNOWN	87															
IPREACC	ICNTRL	INTEGER	UNKNOWN	79															
IPRECON	ICNTRL	INTEGER	UNKNOWN	80															
IQS	ICNTRL	INTEGER	ARRAY	75	77	78	79	80	81	82	83	84	85	86					
IQU	ICNTRL	INTEGER	ARRAY	76	87	88	89												
IRADLWG	ICNTRL	INTEGER	UNKNOWN	85															
IRADSW	ICNTRL	INTEGER	UNKNOWN	89															
IRADSWG	ICNTRL	INTEGER	UNKNOWN	84															
IROD	IDPARM	INTEGER	SIMPLE	192	311/S														
ITAPE	LDPARM	LOGICAL	SIMPLE	201	204														
ITMAX	ICNTRL	INTEGER	UNKNOWN	78															
ITMIN	ICNTRL	INTEGER	UNKNOWN	77															
IWAVE		INTEGER	SIMPLE	351/S	352	362													
J		INTEGER	SIMPLE	359/C	363														
JC	IDPARM	INTEGER	ARRAY	193															
JE	IDPARM	INTEGER	ARRAY	194															
JIC	CCNTRL	CHAR*8	SIMPLE	5	18	306/S													
JM	ICNTRL	INTEGER	SIMPLE	30	350	354	357	359											
JMD2	ICNTRL	INTEGER	SIMPLE	31															
JMT2	ICNTRL	INTEGER	SIMPLE	32															
JNP	ICNTRL	INTEGER	SIMPLE	33															
JO4	ICNTRL	INTEGER	SIMPLE	34	312/S														
JO8	ICNTRL	INTEGER	SIMPLE	35	313/S														
JO8	CCNTRL	CHAR*8	SIMPLE	6	19	306	307/S												
JP	IDPARM	INTEGER	ARRAY	195															
JSP	ICNTRL	INTEGER	SIMPLE	36															
K		INTEGER	SIMPLE	308/C	309														
KLIALB	ICNTRL	INTEGER	SIMPLE	37	314/S														
KLIGW	ICNTRL	INTEGER	SIMPLE	38	315/S														
KLISST	ICNTRL	INTEGER	SIMPLE	39	316/S														
KS	ICNTRL	INTEGER	SIMPLE	40															

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KSTEP	IDPARM	INTEGER	SIMPLE	196																
KU	ICNTRL	INTEGER	SIMPLE	41																
L		INTEGER	SIMPLE	344/C	345	345														
LC	LCNTRL	LOGICAL	ARRAY	143	144															
LC0	LCNTRL	LOGICAL	SIMPLE	92	143	144														
LCNTRL		INTEGER	UNKNOWN	92	93	94	95	96	97	98	99	100	101	102						
				103	104															
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	116	141															
LDPARM		INTEGER	UNKNOWN	200	201	202														
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	110	135															
LFUSION	LCNTRL	LOGICAL	UNKNOWN	111	136															
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	109	134															
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	139															
LOGBR	ICNTRL	INTEGER	SIMPLE	42																
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	115	140															
LPREACC	LCNTRL	LOGICAL	UNKNOWN	107	132															
LPRECON	LCNTRL	LOGICAL	UNKNOWN	108	133															
LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114						
				128																
LQU	LCNTRL	LOGICAL	ARRAY	104	115	116	117	129												
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138															
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	142															
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	112	137															
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131															
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130															
MATIN	ICNTRL	INTEGER	SIMPLE	43	317/S															
MATSNX	ICNTRL	INTEGER	SIMPLE	44	318/S															
MATSUN	ICNTRL	INTEGER	SIMPLE	45	319/S															
MJ	IDPARM	INTEGER	ARRAY	197																
MLF	ICNTRL	INTEGER	ARRAY	46	320/S	322/S														
MROD	ICNTRL	INTEGER	SIMPLE	47	324/S															
MSM	ICNTRL	INTEGER	SIMPLE	48																
N		INTEGER	SIMPLE	321/C	322															
NB	ICNTRL	INTEGER	SIMPLE	50	341															
ND	ICNTRL	INTEGER	SIMPLE	51																
NDALT	ICNTRL	INTEGER	SIMPLE	52	325/S															
NDAY	ICNTRL	INTEGER	SIMPLE	53																
NDHOG	ICNTRL	INTEGER	SIMPLE	74																
NDOUT	ICNTRL	INTEGER	SIMPLE	54	326/S															
NDPHY	ICNTRL	INTEGER	SIMPLE	55	329/S															
NDRSW	ICNTRL	INTEGER	SIMPLE	29	327/S															
NDSHF	ICNTRL	INTEGER	SIMPLE	56	334/S															
NDT	ICNTRL	INTEGER	SIMPLE	57	330/S															
NHMS	ICNTRL	INTEGER	SIMPLE	58																
NHMS0	ICNTRL	INTEGER	SIMPLE	60	331/S															
NHMS1	IDPARM	INTEGER	SIMPLE	198	331	332														
NHMSE	ICNTRL	INTEGER	SIMPLE	59	332/S															
NKRSH	ICNTRL	INTEGER	SIMPLE	48	328/S															
NLAY	ICNTRL	INTEGER	SIMPLE	61	345															
NLAYM1	ICNTRL	INTEGER	SIMPLE	62																
NLAYP1	ICNTRL	INTEGER	SIMPLE	63	344															
NMLEV	ICNTRL	INTEGER	SIMPLE	73																
NSDAY	ICNTRL	INTEGER	SIMPLE	64																
NSEQ	ICNTRL	INTEGER	SIMPLE	65	333/S															
NSTEP	ICNTRL	INTEGER	SIMPLE	67	335/S															
NYMD	ICNTRL	INTEGER	SIMPLE	69																
NYMD0	ICNTRL	INTEGER	SIMPLE	71	336/S															
NYMD1	IDPARM	INTEGER	SIMPLE	199	336	337														
NYMDE	ICNTRL	INTEGER	SIMPLE	70	337/S															
NZINIT	ICNTRL	INTEGER	SIMPLE	72																
OMEGA	QANDOT	REAL	ARRAY	286	295															
OMEGA2	RCNTRL	REAL	SIMPLE	161																
P	QANDOT	REAL	ARRAY	251	269															
PHI	QANDOT	REAL	ARRAY	285	294															
PHIS	QANDOT	REAL	ARRAY	244	262															
PI	RCNTRL	REAL	SIMPLE	162																
PI180	RCNTRL	REAL	SIMPLE	163																
PI2	RCNTRL	REAL	SIMPLE	164																
PIMEAN	RCNTRL	REAL	SIMPLE	166	341/S															
PK	//	REAL	ARRAY	300																

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PKSTD	RDPARM	REAL	SIMPLE	227															
PKTOP	RDPARM	REAL	SIMPLE	228															
PLEVS	RCNTRL	REAL	ARRAY	180															
PREACC	QANDQT	REAL	ARRAY	254	272														
PRECON	QANDQT	REAL	ARRAY	255	273														
PSMAX	RCNTRL	REAL	SIMPLE	167	342/S														
PSMIN	RCNTRL	REAL	SIMPLE	168	343/S														
PSTD	RCNTRL	REAL	SIMPLE	165	340/S														
PT	//	REAL	ARRAY	300															
PTOP	RCNTRL	REAL	SIMPLE	169															
PZERO	RCNTRL	REAL	SIMPLE	186															
QALT	LCNTRL	LOGICAL	SIMPLE	93	118														
QANDQT		REAL	UNKNOWN	243	280														
QBEG	LCNTRL	LOGICAL	SIMPLE	94	119														
QDAY	LCNTRL	LOGICAL	SIMPLE	95	120														
QEND	LCNTRL	LOGICAL	SIMPLE	96	121														
QOUT	LCNTRL	LOGICAL	SIMPLE	97	122														
QPHY	LCNTRL	LOGICAL	SIMPLE	98	123														
QRSH	LCNTRL	LOGICAL	SIMPLE	102	127														
QRSW	LCNTRL	LOGICAL	SIMPLE	101	126														
QS	QANDQT	REAL	ARRAY	243	262	263	264	265	266	267	268	269	270	271					
				272	273	274	275	276	277	278	279								
QSHF	LCNTRL	LOGICAL	SIMPLE	99	124														
QU	QANDQT	REAL	ARRAY	280	290	291	292	293	294	295	296	297	298						
RADE	RCNTRL	REAL	SIMPLE	170															
RADLW	QANDQT	REAL	ARRAY	289	298														
RADLWG	QANDQT	REAL	ARRAY	260	278														
RADSW	QANDQT	REAL	ARRAY	288	297														
RADSWG	QANDQT	REAL	ARRAY	259	277														
RC	RCNTRL	REAL	ARRAY	187	188														
RCO	RCNTRL	REAL	SIMPLE	145	187	188													
RCNTRL		REAL	UNKNOWN	145	146	147	148	149	150	151	152	153	154	155					
				156	157	158	159	160	161	162	163	164	165	166					
				167	168	169	170	171	172	173	174	175	176	177					
				178	179	180	181	182	183	184	185	186							
RDPARM		REAL	UNKNOWN	206	207	208	209	210	211	212	213	214	215	216					
				217	218	219	220	221	222	223	224	225	226	227					
				228	229	230	231	232	233	234	235	236	237	238					
				239	240														
RGAS	RCNTRL	REAL	SIMPLE	171															
RLAT	RDPARM	REAL	ARRAY	229															
RLATD	RDPARM	REAL	ARRAY	230															
ROCP	RCNTRL	REAL	SIMPLE	172															
ROCPDT	RDPARM	REAL	SIMPLE	231															
ROCPPI	RDPARM	REAL	SIMPLE	232															
RSDIST	RCNTRL	REAL	SIMPLE	173															
SDAY	RCNTRL	REAL	SIMPLE	174															
SEASON	RCNTRL	REAL	SIMPLE	175															
SGNP	RDPARM	REAL	ARRAY	233															
SH	QANDQT	REAL	ARRAY	284	293														
SHS	QANDQT	REAL	ARRAY	250	268														
SIG	RDPARM	REAL	ARRAY	240															
SIGE	RCNTRL	REAL	ARRAY	176	345/S														
SIND	RCNTRL	REAL	SIMPLE	177															
SINL	RDPARM	REAL	ARRAY	234															
SINLON	RDPARM	REAL	ARRAY	235															
SMTH	QANDQT	REAL	ARRAY	245	263	353/S	354/S	363/S											
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125	338/S													
SOLS	RCNTRL	REAL	SIMPLE	178															
START	RDPARM	LOGICAL	SIMPLE	202	205														
T	QANDQT	REAL	ARRAY	283	292														
THSTD	RDPARM	REAL	SIMPLE	236															
THSTD2	RDPARM	REAL	SIMPLE	237															
TMAX	QANDQT	REAL	ARRAY	253	271														
TMIN	QANDQT	REAL	ARRAY	252	270														
TS	QANDQT	REAL	ARRAY	249	267														
TSTD	RCNTRL	REAL	SIMPLE	179	347/S														
U	QANDQT	REAL	ARRAY	281	290														
V	QANDQT	REAL	ARRAY	282	291														
VER	CCNTRL	CHAR*8	SIMPLE	10	23														

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WSAVE	RDPARM	REAL	ARRAY	238		
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24	309/S
XORDS	CORDER	CHAR*8	ARRAY	241	242	303/I
XORDU	CORDER	CHAR*8	ARRAY	241	242	304/I

PROCEDURE MAP

--NAME-----TYPE-----CLASS-----REFERENCES D=STMT FN DEF. A=ARGLIST

ACOS	REAL	INTRINSIC	348	
AMIN1	REAL	INTRINSIC	363	
COS	REAL	INTRINSIC	361	
FLOAT	REAL	INTRINSIC	345	
PMEAN	REAL	FUNCTION	341	
SIN	REAL	INTRINSIC	355	355

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00001

SUBROUTINE DEPEND

C	SDEPEND	2
C	PURPOSE	SDEPEND	3
C	SET MODEL DEPENDENT CONSTANTS.	SDEPEND	4
C	CALL BY INPUT ONLY	SDEPEND	5
C		SDEPEND	6
C	USAGE	SDEPEND	7
C		SDEPEND	8
C	ARGUMENTS DESCRIPTION	SDEPEND	9
C	NONE	SDEPEND	10
C		SDEPEND	11
C	SUBPROGRAMS NEEDED	SDEPEND	12
C	NAME DESCRIPTION	SDEPEND	13
C	RFFT1 INITIALIZES FAST FOURIER TRANSFORM	SDEPEND	14
C		SDEPEND	15
C	RECORD OF MODIFICATIONS	SDEPEND	16
C	BASED ON OLD VERSION 8.	SDEPEND	17
C		SDEPEND	18
C	7DATE? 7PROGRAMMER? 7DESCRIPTION OF MODIFICATIONS?	SDEPEND	19
C	05/19/83 RAMESH THIS PART AND COMMENTS	SDEPEND	20
C		SDEPEND	21
C	REMARKS:	SDEPEND	22
C	(1) 7MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC. 7	SDEPEND	23
C		SDEPEND	24
C		SDEPEND	25
C	SDEPEND	26
C	M / A - C O M S I G M A D A T A I N C . N A S A - G S F C	SDEPEND	27
C	SDEPEND	28
C		SDEPEND	29
C	CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL	2
C	=====	SCNTRL	3
00002	COMMON /CCNTRL/ CCO	SCNTRL	4
00003	COMMON /CCNTRL/ ADATE	SCNTRL	5
00004	COMMON /CCNTRL/ ATIME	SCNTRL	6
00005	COMMON /CCNTRL/ JIC	SCNTRL	7
00006	COMMON /CCNTRL/ JOB	SCNTRL	8
00007	COMMON /CCNTRL/ CCSP06	SCNTRL	9
00008	COMMON /CCNTRL/ CCSP07	SCNTRL	10
00009	COMMON /CCNTRL/ CCSP08	SCNTRL	11
00010	COMMON /CCNTRL/ VER	SCNTRL	12
00011	COMMON /CCNTRL/ XLABEL (10)	SCNTRL	13
00012	COMMON /CCNTRL/ CQS (30)	SCNTRL	14
00013	COMMON /CCNTRL/ CQU (10)	SCNTRL	15
C		SCNTRL	16
00014	EQUIVALENCE (CC0,CC(1))	SCNTRL	17
00015	CHARACTER*8 CCO, CC(200)	SCNTRL	18
00016	CHARACTER*8 ADATE	SCNTRL	19
00017	CHARACTER*8 ATIME	SCNTRL	20
00018	CHARACTER*8 JIC	SCNTRL	21
00019	CHARACTER*8 JOB	SCNTRL	22
00020	CHARACTER*8 CCSP06	SCNTRL	23
00021	CHARACTER*8 CCSP07	SCNTRL	24
00022	CHARACTER*8 CCSP08	SCNTRL	25
00023	CHARACTER*8 VER	SCNTRL	26
00024	CHARACTER*8 XLABEL	SCNTRL	27
C		SCNTRL	28
C	INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL	29
C	=====	SCNTRL	30
00025	COMMON /ICNTRL/ ICO	SCNTRL	31
00026	COMMON /ICNTRL/ IM	SCNTRL	32
00027	COMMON /ICNTRL/ IMD2	SCNTRL	33
00028	COMMON /ICNTRL/ IMD2P1	SCNTRL	34
00029	COMMON /ICNTRL/ NDRSW	SCNTRL	35
00030	COMMON /ICNTRL/ JM	SCNTRL	36
00031	COMMON /ICNTRL/ JMD2	SCNTRL	37
00032	COMMON /ICNTRL/ JMT2	SCNTRL	38
00033	COMMON /ICNTRL/ JNP	SCNTRL	39
00034	COMMON /ICNTRL/ JO4	SCNTRL	40
00035	COMMON /ICNTRL/ JO8	SCNTRL	41
00036	COMMON /ICNTRL/ JSP	SCNTRL	42
00037	COMMON /ICNTRL/ KLIALB	SCNTRL	43
		SCNTRL	44

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DEPEND 1

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00038	COMMON /ICNTRL/ KLIGW	SCNTRL 45
00039	COMMON /ICNTRL/ KLISST	SCNTRL 46
00040	COMMON /ICNTRL/ KS	SCNTRL 47
00041	COMMON /ICNTRL/ KU	SCNTRL 48
00042	COMMON /ICNTRL/ LOG8R	SCNTRL 49
00043	COMMON /ICNTRL/ MATIN	SCNTRL 50
00044	COMMON /ICNTRL/ MATSNX	SCNTRL 51
00045	COMMON /ICNTRL/ MATSUN	SCNTRL 52
00046	COMMON /ICNTRL/ MLF (12)	SCNTRL 53
00047	COMMON /ICNTRL/ MROD	SCNTRL 54
00048	COMMON /ICNTRL/ NKRSH	SCNTRL 55
00049	COMMON /ICNTRL/ MSM	SCNTRL 56
00050	COMMON /ICNTRL/ NB	SCNTRL 57
00051	COMMON /ICNTRL/ ND	SCNTRL 58
00052	COMMON /ICNTRL/ NDALT	SCNTRL 59
00053	COMMON /ICNTRL/ NDAY	SCNTRL 60
00054	COMMON /ICNTRL/ NDOUT	SCNTRL 61
00055	COMMON /ICNTRL/ NDPHY	SCNTRL 62
00056	COMMON /ICNTRL/ NDSHF	SCNTRL 63
00057	COMMON /ICNTRL/ NDT	SCNTRL 64
00058	COMMON /ICNTRL/ NHMS	SCNTRL 65
00059	COMMON /ICNTRL/ NHMSE	SCNTRL 66
00060	COMMON /ICNTRL/ NHMSO	SCNTRL 67
00061	COMMON /ICNTRL/ NLAY	SCNTRL 68
00062	COMMON /ICNTRL/ NLAYM1	SCNTRL 69
00063	COMMON /ICNTRL/ NLAYP1	SCNTRL 70
00064	COMMON /ICNTRL/ NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
C		
00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 84
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 85
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 86
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 87
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 88
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 89
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 90
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 91
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 92
00086	EQUIVALENCE (IICLOUD ,IQS(10))	SCNTRL 93
C		
00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 94
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 95
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 96
C		
00090	EQUIVALENCE (ICO,IC(1))	SCNTRL 97
00091	INTEGER ICO, IC(200)	SCNTRL 98
C		
C LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD		
C =====		
C		
00092	COMMON /LCNTRL/ LCO	SCNTRL 99
00093	COMMON /LCNTRL/ QALT	SCNTRL 100
00094	COMMON /LCNTRL/ QBEG	SCNTRL 101
00095	COMMON /LCNTRL/ QDAY	SCNTRL 102
00096	COMMON /LCNTRL/ QEND	SCNTRL 103
00097	COMMON /LCNTRL/ QOUT	SCNTRL 104
00098	COMMON /LCNTRL/ QPHY	SCNTRL 105
00099	COMMON /LCNTRL/ QSHF	SCNTRL 106
00100	COMMON /LCNTRL/ SN2FLG	SCNTRL 107
00101	COMMON /LCNTRL/ QRSW	SCNTRL 108
00102	COMMON /LCNTRL/ QRSH	SCNTRL 109
		SCNTRL 110
		SCNTRL 111
		SCNTRL 112
		SCNTRL 113
		SCNTRL 114
		SCNTRL 115


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00103 COMMON /LCNTRL/ LQS(30)
00104 COMMON /LCNTRL/ LQU(10)
C
00105 EQUIVALENCE (LTMIN ,LQS( 1))
00106 EQUIVALENCE (LTMAX ,LQS( 2))
00107 EQUIVALENCE (LPREACC ,LQS( 3))
00108 EQUIVALENCE (LPRECON ,LQS( 4))
00109 EQUIVALENCE (LHFLUX ,LQS( 5))
00110 EQUIVALENCE (LEFLUX ,LQS( 6))
00111 EQUIVALENCE (LFUSION ,LQS( 7))
00112 EQUIVALENCE (LRADSWG ,LQS( 8))
00113 EQUIVALENCE (LRADLWG ,LQS( 9))
00114 EQUIVALENCE (LICLOUD ,LQS(10))
C
00115 EQUIVALENCE (LOMEGA ,LQU( 1))
00116 EQUIVALENCE (LDIABAT ,LQU( 2))
00117 EQUIVALENCE (LRADSW ,LQU( 3))
C
00118 LOGICAL QALT
00119 LOGICAL QBEG
00120 LOGICAL QDAY
00121 LOGICAL QEND
00122 LOGICAL QOUT
00123 LOGICAL QPHY
00124 LOGICAL QSHF
00125 LOGICAL SN2FLG
00126 LOGICAL QRSW
00127 LOGICAL QRSW
C
00128 LOGICAL LQS
00129 LOGICAL LQU
00130 LOGICAL LTMIN
00131 LOGICAL LTMAX
00132 LOGICAL LPREACC
00133 LOGICAL LPRECON
00134 LOGICAL LHFLUX
00135 LOGICAL LEFLUX
00136 LOGICAL LFUSION
00137 LOGICAL LRADSWG
00138 LOGICAL LRADLWG
00139 LOGICAL LICLOUD
C
00140 LOGICAL LOMEGA
00141 LOGICAL LDIABAT
00142 LOGICAL LRADSW
C
00143 EQUIVALENCE (LCO,LQ(1))
00144 LOGICAL LCO, LQ(200)
C
C REAL MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00145 COMMON /RCNTRL/ RCO
00146 COMMON /RCNTRL/ APHEL
00147 COMMON /RCNTRL/ BETA
00148 COMMON /RCNTRL/ COSD
00149 COMMON /RCNTRL/ CP
00150 COMMON /RCNTRL/ DAYSPV
00151 COMMON /RCNTRL/ DEC
00152 COMMON /RCNTRL/ DECMAX
00153 COMMON /RCNTRL/ DIST
00154 COMMON /RCNTRL/ DLAT
00155 COMMON /RCNTRL/ DLON
00156 COMMON /RCNTRL/ DT
00157 COMMON /RCNTRL/ ECCN
00158 COMMON /RCNTRL/ GNU1
00159 COMMON /RCNTRL/ GNU2
00160 COMMON /RCNTRL/ GRAV
00161 COMMON /RCNTRL/ OMEGA2
00162 COMMON /RCNTRL/ PI
00163 COMMON /RCNTRL/ PI180
00164 COMMON /RCNTRL/ PI2

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SCNTRL 116
SCNTRL 117
SCNTRL 118
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SCNTRL 184
SCNTRL 185
SCNTRL 186

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00165	COMMON /RCNTRL/ PSTD	SCNTRL 187
00166	COMMON /RCNTRL/ PIMEAN	SCNTRL 188
00167	COMMON /RCNTRL/ PSMAX	SCNTRL 189
00168	COMMON /RCNTRL/ PSMIN	SCNTRL 190
00169	COMMON /RCNTRL/ PTOP	SCNTRL 191
00170	COMMON /RCNTRL/ RADE	SCNTRL 192
00171	COMMON /RCNTRL/ RGAS	SCNTRL 193
00172	COMMON /RCNTRL/ ROCP	SCNTRL 194
00173	COMMON /RCNTRL/ RSDIST	SCNTRL 195
00174	COMMON /RCNTRL/ SDAY	SCNTRL 196
00175	COMMON /RCNTRL/ SEASON	SCNTRL 197
00176	COMMON /RCNTRL/ SIGE (25)	SCNTRL 198
00177	COMMON /RCNTRL/ SIND	SCNTRL 199
00178	COMMON /RCNTRL/ SOLS	SCNTRL 200
00179	COMMON /RCNTRL/ TSTD	SCNTRL 201
00180	COMMON /RCNTRL/ PLEVS (25)	SCNTRL 202
00181	COMMON /RCNTRL/ HEATW	SCNTRL 203
00182	COMMON /RCNTRL/ HEATI	SCNTRL 204
00183	COMMON /RCNTRL/ EPS	SCNTRL 205
00184	COMMON /RCNTRL/ EPSFAC	SCNTRL 206
00185	COMMON /RCNTRL/ CALTOJ	SCNTRL 207
00186	COMMON /RCNTRL/ PZERO	SCNTRL 208
00187	C EQUIVALENCE (RCO,RC(1))	SCNTRL 209
00188	C REAL RCO, RC(200)	SCNTRL 210
	C	SCNTRL 211
	C	SCNTRL 212
	C	SCNTRL 213
	C	SCNTRL 214
	C	SCNTRL 215
00189	COMMON /IDPARM/ IJUMP (46)	SCNTRL 216
00190	COMMON /IDPARM/ IDSP02	SCNTRL 217
00191	COMMON /IDPARM/ INDEX (72)	SCNTRL 218
00192	COMMON /IDPARM/ IROD	SCNTRL 219
00193	COMMON /IDPARM/ JC (46)	SCNTRL 220
00194	COMMON /IDPARM/ JE (2)	SCNTRL 221
00195	COMMON /IDPARM/ JP (2,2)	SCNTRL 222
00196	COMMON /IDPARM/ KSTEP	SCNTRL 223
00197	COMMON /IDPARM/ MJ (46)	SCNTRL 224
00198	COMMON /IDPARM/ NHMS1	SCNTRL 225
00199	COMMON /IDPARM/ NYMD1	SCNTRL 226
	C	SCNTRL 227
	C	SCNTRL 228
	C	SCNTRL 229
	C	SCNTRL 230
	C	SCNTRL 231
00200	COMMON /LDPARM/ FILTER (46)	SCNTRL 232
00201	COMMON /LDPARM/ ITAPE	SCNTRL 233
00202	COMMON /LDPARM/ START	SCNTRL 234
	C	SCNTRL 235
00203	LOGICAL FILTER	SCNTRL 236
00204	LOGICAL ITAPE	SCNTRL 237
00205	LOGICAL START	SCNTRL 238
	C	SCNTRL 239
	C	SCNTRL 240
	C	SCNTRL 241
	C	SCNTRL 242
	C	SCNTRL 243
00206	COMMON /RDPARM/ ADLDP	SCNTRL 244
00207	COMMON /RDPARM/ CON1	SCNTRL 245
00208	COMMON /RDPARM/ CON1DT	SCNTRL 246
00209	COMMON /RDPARM/ CON2	SCNTRL 247
00210	COMMON /RDPARM/ CON2DT	SCNTRL 248
00211	COMMON /RDPARM/ CON3	SCNTRL 249
00212	COMMON /RDPARM/ CON3DT	SCNTRL 250
00213	COMMON /RDPARM/ CON4	SCNTRL 251
00214	COMMON /RDPARM/ CON4DT	SCNTRL 252
00215	COMMON /RDPARM/ CON5	SCNTRL 253
00216	COMMON /RDPARM/ COSL (46)	SCNTRL 254
00217	COMMON /RDPARM/ COSLON (72)	SCNTRL 255
00218	COMMON /RDPARM/ CPD2	SCNTRL 256
00219	COMMON /RDPARM/ DXP (46)	SCNTRL 257
00220	COMMON /RDPARM/ DXYP (46)	
00221	COMMON /RDPARM/ DYP (46)	
00222	COMMON /RDPARM/ FCORLS (46)	
00223	COMMON /RDPARM/ F1DT	
00224	COMMON /RDPARM/ F2DT	

```

00225 COMMON /RDPARM/ H1DT
00226 COMMON /RDPARM/ H2DT
00227 COMMON /RDPARM/ PKSTD
00228 COMMON /RDPARM/ PKTOP
00229 COMMON /RDPARM/ RLAT (46)
00230 COMMON /RDPARM/ RLATD (46)
00231 COMMON /RDPARM/ ROCPOD
00232 COMMON /RDPARM/ ROCPF1
00233 COMMON /RDPARM/ SGNP (2)
00234 COMMON /RDPARM/ SINL (46)
00235 COMMON /RDPARM/ SINLON (72)
00236 COMMON /RDPARM/ THSTD
00237 COMMON /RDPARM/ THSTD2
00238 COMMON /RDPARM/ WSAVE (159)
00239 COMMON /RDPARM/ DSIG (9)
00240 COMMON /RDPARM/ SIG (9)

```

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GLOBAL MODEL SURFACE FIELDS

COMMON /QANDQT/ QS(72,19,46)

```

00242 DIMENSION PHIS(1368,1)
00243 DIMENSION SMTH(1368,23)
00244 DIMENSION ALBEDO(1368,1)
00245 DIMENSION GT(1368,1)
00246 DIMENSION GW(1368,1)
00247 DIMENSION TS(1368,1)
00248 DIMENSION SHS(1368,1)
00249 DIMENSION P(72,19,1)
00250 DIMENSION TMIN(1368,1)
00251 DIMENSION TMAX(1368,1)
00252 DIMENSION PREACC(1368,1)
00253 DIMENSION PRECON(1368,1)
00254 DIMENSION HFLUX(1368,1)
00255 DIMENSION EFLUX(1368,1)
00256 DIMENSION FUSION(1368,1)
00257 DIMENSION RADSWG(1368,1)
00258 DIMENSION RADLWG(1368,1)
00259 DIMENSION ICLOUD(1368,1)

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00260 EQUIVALENCE (QS(1,1,1),PHIS(1,1))
00261 EQUIVALENCE (QS(1,2,1),SMTH(1,1))
00262 EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))
00263 EQUIVALENCE (QS(1,4,1),GT(1,1))
00264 EQUIVALENCE (QS(1,5,1),GW(1,1))
00265 EQUIVALENCE (QS(1,6,1),TS(1,1))
00266 EQUIVALENCE (QS(1,7,1),SHS(1,1))
00267 EQUIVALENCE (QS(1,8,1),P(1,1,1))
00268 EQUIVALENCE (QS(1,10,1),TMIN(1,1))
00269 EQUIVALENCE (QS(1,11,1),TMAX(1,1))
00270 EQUIVALENCE (QS(1,12,1),PREACC(1,1))
00271 EQUIVALENCE (QS(1,13,1),PRECON(1,1))
00272 EQUIVALENCE (QS(1,14,1),HFLUX(1,1))
00273 EQUIVALENCE (QS(1,15,1),EFLUX(1,1))
00274 EQUIVALENCE (QS(1,16,1),FUSION(1,1))
00275 EQUIVALENCE (QS(1,17,1),RADSWG(1,1))
00276 EQUIVALENCE (QS(1,18,1),RADLWG(1,1))
00277 EQUIVALENCE (QS(1,19,1),ICLOUD(1,1))

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GLOBAL MODEL UPPER-AIR FIELDS

COMMON /QANDQT/ QU(72,9,14,46)

```

00279 DIMENSION U(72,9,14,1)
00280 DIMENSION V(72,9,14,1)
00281 DIMENSION T(72,9,14,1)
00282 DIMENSION SH(72,9,14,1)
00283 DIMENSION PHI(72,9,14,1)
00284 DIMENSION OMEGA(72,126,1)
00285 DIMENSION DIABAT(72,126,1)
00286 DIMENSION RADSW(72,126,1)
00287 DIMENSION RADLW(72,126,1)

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SCNTRL 258
SCNTRL 259
SCNTRL 260
SCNTRL 261
SCNTRL 262
SCNTRL 263
SCNTRL 264
SCNTRL 265
SCNTRL 266
SCNTRL 267
SCNTRL 268
SCNTRL 269
SCNTRL 270
SCNTRL 271
SCNTRL 272
SCNTRL 273
SCNTRL 274
SQANDQT 2
SQANDQT 3
SQANDQT 4
SQANDQT 5
SQANDQT 6
SQANDQT 7
SQANDQT 8
SQANDQT 9
SQANDQT 10
SQANDQT 11
SQANDQT 12
SQANDQT 13
SQANDQT 14
SQANDQT 15
SQANDQT 16
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SQANDQT 18
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SQANDQT 37
SQANDQT 38
SQANDQT 39
SQANDQT 40
SQANDQT 41
SQANDQT 42
SQANDQT 43
SQANDQT 44
SQANDQT 45
SQANDQT 46
SQANDQT 47
SQANDQT 48
SQANDQT 49
SQANDQT 50
SQANDQT 51
SQANDQT 52
SQANDQT 53
SQANDQT 54
SQANDQT 55

```

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```

00351      FILTER(J) = FILTER(J) .OR. SMTH(I,J).NE.1.
00352      25      CONTINUE
00353      30      CONTINUE
00354      IJUMP(JSP) = IM
00355      IJUMP(JNP) = IM
00356      MJ(JSP) = 1
00357      MJ(JNP) = 2
00358      JE(1) = JSP
00359      JE(2) = JNP
00360      JP(1,1) = JSP + 1
00361      JP(2,1) = JSP + 2
00362      JP(1,2) = JNP - 1
00363      JP(2,2) = JNP - 2
00364      SGNP(1) = -1.
00365      SGNP(2) = 1.
00366      ADLDP = 12.*RADE*DLAT*DLON
00367      RADIM3 = 3.*RADE*IM
00368      CON1 = 4.*COTAN(.5*DLAT)/RADIM3
00369      CON2 = -COTAN(DLAT)/RADIM3
00370      CON3 = CON1
00371      CON4 = -CON2
00372      CON5 = 1./((RADIM3*DLAT)
00373      CFD2 = GP*.5
00374      PKTOP = PTOP**ROCPP1
00375      THSTD2 = THSTD*2.
00376      CALL RFFT1 (IM,WSAVE)
00377      RETURN
00378      END

```

```

SDEPEND 87
SDEPEND 88
SDEPEND 89
SDEPEND 90
SDEPEND 91
SDEPEND 92
SDEPEND 93
SDEPEND 94
SDEPEND 95
SDEPEND 96
SDEPEND 97
SDEPEND 98
SDEPEND 99
SDEPEND 100
SDEPEND 101
SDEPEND 102
SDEPEND 103
SDEPEND 104
SDEPEND 105
SDEPEND 106
SDEPEND 107
SDEPEND 108
SDEPEND 109
SDEPEND 110
SDEPEND 111
SDEPEND 112
SDEPEND 113
SDEPEND 114

```

STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10	327	323
10000	297	
20	335	328
25	352	349
30	353	336

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES	A	C	I	R	S	W
ADATE	CCNTRL	CHAR*8	SIMPLE	3	16					
ADLDP	RDPARM	REAL	SIMPLE	206	366/S					
ALBEDO	QANDQT	REAL	ARRAY	244	262					
APHEL	RCNTRL	REAL	SIMPLE	146						
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17					
BETA	RCNTRL	REAL	SIMPLE	147						
CALTOJ	RCNTRL	REAL	SIMPLE	185						
CC	CCNTRL	CHAR*8	ARRAY	14	15					
CCO	CCNTRL	CHAR*8	SIMPLE	2	14	15				
CCNTRL	CCNTRL	REAL	UNKNOWN	2	3	4	5	6	7	8
				13						9
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20					10
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21					11
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22					12
CON1	RDPARM	REAL	SIMPLE	207	368/S	370				
CON1DT	RDPARM	REAL	SIMPLE	208						
CON2	RDPARM	REAL	SIMPLE	209	369/S	371				
CON2DT	RDPARM	REAL	SIMPLE	210						
CON3	RDPARM	REAL	SIMPLE	211	370/S					
CON3DT	RDPARM	REAL	SIMPLE	212						
CON4	RDPARM	REAL	SIMPLE	213	371/S					
CON4DT	RDPARM	REAL	SIMPLE	214						
CON5	RDPARM	REAL	SIMPLE	215	372/S					
COSD	RCNTRL	REAL	SIMPLE	148						
COSL	RDPARM	REAL	ARRAY	216	342/S	344				
COSLON	RDPARM	REAL	ARRAY	217	331/S	332/S	332			
GP	RCNTRL	REAL	SIMPLE	149	319	373				
CPD2	RDPARM	REAL	SIMPLE	218	373/S					
CQS	CCNTRL	REAL	ARRAY	12						
CQU	CCNTRL	REAL	ARRAY	13						

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DEPEND 7

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DAYSPLY	RCNTRL	REAL	SIMPLE	150																
DEC	RCNTRL	REAL	SIMPLE	151																
DECMAX	RCNTRL	REAL	SIMPLE	152	313/S															
DEPEND			SUBROUTINE	1																
DIABAT	QANDQT	REAL	ARRAY	285	294															
DIST	RCNTRL	REAL	SIMPLE	153																
DLAT	RCNTRL	REAL	SIMPLE	154	315/S	340	345	366	368	369	372									
DLOX	RCNTRL	REAL	SIMPLE	155	316/S	331	333	344	366											
DSIG	RDPARM	REAL	ARRAY	239	325/S															
DT	RCNTRL	REAL	SIMPLE	156																
DXP	RDPARM	REAL	ARRAY	219	344/S	346														
DXYP	RDPARM	REAL	ARRAY	220	346/S															
DYP	RDPARM	REAL	ARRAY	221	345/S	346														
ECON	RCNTRL	REAL	SIMPLE	157																
EFLUX	QANDQT	REAL	ARRAY	255	273															
EPS	RCNTRL	REAL	SIMPLE	183																
EPSFAC	RCNTRL	REAL	SIMPLE	184																
F1DT	RDPARM	REAL	SIMPLE	223																
F2DT	RDPARM	REAL	SIMPLE	224																
FCORLS	RDPARM	REAL	ARRAY	222	347/S															
FILTER	LDPARM	LOGICAL	ARRAY	200	203	348/S	351/S	351												
FJEQ		REAL	SIMPLE	317/S	340															
FUSION	QANDQT	REAL	ARRAY	256	274															
GNU1	RCNTRL	REAL	SIMPLE	158	314/S															
GNU2	RCNTRL	REAL	SIMPLE	159	314															
GRAV	RCNTRL	REAL	SIMPLE	160																
GT	QANDQT	REAL	ARRAY	245	263															
GW	QANDQT	REAL	ARRAY	246	264															
H1DT	RDPARM	REAL	SIMPLE	225																
H2DT	RDPARM	REAL	SIMPLE	226																
HEATI	RCNTRL	REAL	SIMPLE	182																
HEATW	RCNTRL	REAL	SIMPLE	181																
HFLUX	QANDQT	REAL	ARRAY	254	272															
I		INTEGER	SIMPLE	328/C	329	329	330	330	331	331	332	332	333	333						
IC	ICNTRL	INTEGER	ARRAY	90	334	349/C	350	350	351											
ICO	ICNTRL	INTEGER	SIMPLE	25	91															
ICLOUD	QANDQT	INTEGER	ARRAY	259	277															
ICNTRL		INTEGER	UNKNOWN	25	26	27	28	29	30	31	32	33	34	35						
				36	37	38	39	40	41	42	43	44	45	46						
				47	48	49	50	51	52	53	54	55	56	57						
				58	59	60	61	62	63	64	65	66	67	68						
				69	70	71	72	73	74	75	76									
ICSP53	ICNTRL	INTEGER	SIMPLE	66																
ICSP55	ICNTRL	INTEGER	SIMPLE	68																
IDABAT	ICNTRL	INTEGER	UNKNOWN	88																
IDPARM		INTEGER	UNKNOWN	189	190	191	192	193	194	195	196	197	198	199						
IDSP02	IDPARM	INTEGER	SIMPLE	190																
IEFLUX	ICNTRL	INTEGER	UNKNOWN	82																
IFUSION	ICNTRL	INTEGER	UNKNOWN	83																
IHFLUX	ICNTRL	INTEGER	UNKNOWN	81																
IICLOUD	ICNTRL	INTEGER	UNKNOWN	86																
IJUMP	IDPARM	INTEGER	ARRAY	189	337/S	354/S	355/S													
IM	ICNTRL	INTEGER	SIMPLE	26	298	316	354	355	367	376										
IMD2	ICNTRL	INTEGER	SIMPLE	27	298/S	299	328	329	330	332	334	349								
IMD2P1	ICNTRL	INTEGER	SIMPLE	28	299/S															
INDEX	IDPARM	INTEGER	ARRAY	191	329/S	330/S														
IONEGA	ICNTRL	INTEGER	UNKNOWN	87																
IPREACC	ICNTRL	INTEGER	UNKNOWN	79																
IPRECON	ICNTRL	INTEGER	UNKNOWN	80																
IQS	ICNTRL	INTEGER	ARRAY	75	77	78	79	80	81	82	83	84	85	86						
IQU	ICNTRL	INTEGER	ARRAY	76	87	88	89													
IRADLWG	ICNTRL	INTEGER	UNKNOWN	85																
IRADSW	ICNTRL	INTEGER	UNKNOWN	89																
IRADSWG	ICNTRL	INTEGER	UNKNOWN	84																
IROD	IDPARM	INTEGER	SIMPLE	192																
ITAPE	LDPARM	LOGICAL	SIMPLE	201	204															
ITMAX	ICNTRL	INTEGER	UNKNOWN	78																
ITMIN	ICNTRL	INTEGER	UNKNOWN	77																
J		INTEGER	SIMPLE	336/C	337	338	338	339	340	340	341	341	342	342						

				343	343	344	344	345	346	346	346	347	347	348
JC	IDPARM	INTEGER	ARRAY	343	343	344	344	345	346	346	346	347	347	348
JE	IDPARM	INTEGER	ARRAY	350	350	350	351	351	351					
JIG	CCNTRL	CHAR*8	SIMPLE	193	338/S									
				194	358/S	359/S								
				5	18									
JM	ICNTRL	INTEGER	SIMPLE	30	300	301	302	315	350					
JMD2	ICNTRL	INTEGER	SIMPLE	31	300/S	350								
JMT2	ICNTRL	INTEGER	SIMPLE	32	301/S									
JNP	ICNTRL	INTEGER	SIMPLE	33	302/S	317	336	355	357	359	362	363		
JO4	ICNTRL	INTEGER	SIMPLE	34										
JO8	ICNTRL	INTEGER	SIMPLE	35										
JO8	CCNTRL	CHAR*8	SIMPLE	6										
JP	IDPARM	INTEGER	ARRAY	195	360/S	361/S	362/S	363/S						
JSP	ICNTRL	INTEGER	SIMPLE	36	303/S	317	336	354	356	358	360	361		
KLIALB	ICNTRL	INTEGER	SIMPLE	37										
KLIGW	ICNTRL	INTEGER	SIMPLE	38										
KLISST	ICNTRL	INTEGER	SIMPLE	39										
KS	ICNTRL	INTEGER	SIMPLE	40										
KSTEP	IDPARM	INTEGER	SIMPLE	196										
KU	ICNTRL	INTEGER	SIMPLE	41										
L		INTEGER	SIMPLE	323/C	324	324	325	325	325	326	326	326		
LC	LCNTRL	LOGICAL	ARRAY	143	144									
LC0	LCNTRL	LOGICAL	SIMPLE	92	143	144								
LCNTRL		INTEGER	UNKNOWN	92	93	94	95	96	97	98	99	100	101	102
				103	104									
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	116	141									
LDPARM		INTEGER	UNKNOWN	200	201	202								
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	110	135									
LFUSION	LCNTRL	LOGICAL	UNKNOWN	111	136									
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	109	134									
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	139									
LOGBR	ICNTRL	INTEGER	SIMPLE	42										
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	115	140									
LPREACC	LCNTRL	LOGICAL	UNKNOWN	107	132									
LPRECON	LCNTRL	LOGICAL	UNKNOWN	108	133									
LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114
				128										
LQU	LCNTRL	LOGICAL	ARRAY	104	115	116	117	129						
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138									
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	142									
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	112	137									
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131									
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130									
MATIN	ICNTRL	INTEGER	SIMPLE	43										
MATSNX	ICNTRL	INTEGER	SIMPLE	44										
MATSUN	ICNTRL	INTEGER	SIMPLE	45										
MJ	IDPARM	INTEGER	ARRAY	197	339/S	356/S	357/S							
MLF	ICNTRL	INTEGER	ARRAY	46										
MROD	ICNTRL	INTEGER	SIMPLE	47										
MSM	ICNTRL	INTEGER	SIMPLE	49	304/S	338								
NB	ICNTRL	INTEGER	SIMPLE	50										
ND	ICNTRL	INTEGER	SIMPLE	51										
NDALT	ICNTRL	INTEGER	SIMPLE	52										
NDAY	ICNTRL	INTEGER	SIMPLE	53	305/S									
NDHOG	ICNTRL	INTEGER	SIMPLE	74										
NDOUT	ICNTRL	INTEGER	SIMPLE	54										
NDPHY	ICNTRL	INTEGER	SIMPLE	55										
NDRSW	ICNTRL	INTEGER	SIMPLE	29										
NDSHF	ICNTRL	INTEGER	SIMPLE	56										
NDT	ICNTRL	INTEGER	SIMPLE	57										
NHMS	ICNTRL	INTEGER	SIMPLE	58	309									
NHMS0	ICNTRL	INTEGER	SIMPLE	60										
NHMS1	IDPARM	INTEGER	SIMPLE	198	309/S									
NHMS2	ICNTRL	INTEGER	SIMPLE	59										
NKRSH	ICNTRL	INTEGER	SIMPLE	48										
NLAY	ICNTRL	INTEGER	SIMPLE	61	306	307	323	324						
NLAYM1	ICNTRL	INTEGER	SIMPLE	62	306/S									
NLAYP1	ICNTRL	INTEGER	SIMPLE	63	307/S									
NMLEV	ICNTRL	INTEGER	SIMPLE	73										

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SIND	RCNTRL	REAL	SIMPLE	177				
SINL	RDPARM	REAL	ARRAY	234	343/S	347		
SINLON	RDPARM	REAL	ARRAY	235	333/S	334/S	334	
SMTH	QANDQT	REAL	ARRAY	243	261	350/S	350	351
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125	324		
SOLS	RCNTRL	REAL	SIMPLE	178				
START	LDPARM	LOGICAL	SIMPLE	202	205			
T	QANDQT	REAL	ARRAY	281	290			
THSTD	RDPARM	REAL	SIMPLE	236	322/S	375		
THSTD2	RDPARM	REAL	SIMPLE	237	375/S			
TMAX	QANDQT	REAL	ARRAY	251	269			
TMIN	QANDQT	REAL	ARRAY	250	268			
TS	QANDQT	REAL	ARRAY	247	265			
TSTD	RCNTRL	REAL	SIMPLE	179	322			
U	QANDQT	REAL	ARRAY	279	288			
V	QANDQT	REAL	ARRAY	280	289			
VER	CCNTRL	CHAR*8	SIMPLE	10	23			
WSAVE	RDPARM	REAL	ARRAY	238	376			
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24			

PROCEDURE MAP

--NAME-----TYPE-----CLASS-----REFERENCES D=STMT FN DEF, A=ARGLIST

ACOS	REAL	INTRINSIC	310			
COS	REAL	INTRINSIC	331	342		
COTAN	REAL	INTRINSIC	368	369		
EXPBYK	REAL	FUNCTION	318			
MOD	INTEGER	INTRINSIC	338			
MODYMD	INTEGER	FUNCTION	305			
RFFTI		SUBROUTINE	376			
SIN	REAL	INTRINSIC	324	333	343	

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00001

SUBROUTINE DIFFQ (N1, N2, J)

PURPOSE

UTILITY SUBROUTINE TO SUBTRACT 4TH-ORDER MODEL VALUES.
CALLED BY MAIN (GWSGCM) ONLY

USAGE

ARGUMENTS

DESCRIPTION

N1 TIME STEP POINTER OF VALUES FROM WHICH TO SUBTRACT
N2 TIME STEP POINTER OF VALUES TO SUBTRACT
J LATITUDE GRID BAND

SUBPROGRAMS NEEDED

NAME DESCRIPTION
NONE

RECORD OF MODIFICATIONS

BASED ON OLD VERSION 8.

?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS?
05/04/83 RAMESH THIS PART AND COMMENTS

REMARKS:

(1) ?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.?

M / A - C O M S I G M A D A T A I N C . N A S A - G S F C

CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD

COMMON /CCNTRL/ CC0
COMMON /CCNTRL/ ADATE
COMMON /CCNTRL/ ATIME
COMMON /CCNTRL/ JIC
COMMON /CCNTRL/ JOB
COMMON /CCNTRL/ CCSP06
COMMON /CCNTRL/ CCSP07
COMMON /CCNTRL/ CCSP08
COMMON /CCNTRL/ VER
COMMON /CCNTRL/ XLABEL (10)
COMMON /CCNTRL/ CQS (30)
COMMON /CCNTRL/ CQU (10)EQUIVALENCE (CC0, CC(1))
CHARACTER*8 CC0, CC(200)
CHARACTER*8 ADATE
CHARACTER*8 ATIME
CHARACTER*8 JIC
CHARACTER*8 JOB
CHARACTER*8 CCSP06
CHARACTER*8 CCSP07
CHARACTER*8 CCSP08
CHARACTER*8 VER
CHARACTER*8 XLABEL

INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD

COMMON /ICNTRL/ IC0
COMMON /ICNTRL/ IM
COMMON /ICNTRL/ IMD2
COMMON /ICNTRL/ IMD2P1
COMMON /ICNTRL/ NDRSW
COMMON /ICNTRL/ JM
COMMON /ICNTRL/ JMD2
COMMON /ICNTRL/ JMT2
COMMON /ICNTRL/ JNP
COMMON /ICNTRL/ JO4
COMMON /ICNTRL/ JO8
COMMON /ICNTRL/ JSPSDIFFQ 2
SDIFFQ 3
SDIFFQ 4
SDIFFQ 5
SDIFFQ 6
SDIFFQ 7
SDIFFQ 8
SDIFFQ 9
SDIFFQ 10
SDIFFQ 11
SDIFFQ 12
SDIFFQ 13
SDIFFQ 14
SDIFFQ 15
SDIFFQ 16
SDIFFQ 17
SDIFFQ 18
SDIFFQ 19
SDIFFQ 20
SDIFFQ 21
SDIFFQ 22
SDIFFQ 23
SDIFFQ 24
SDIFFQ 25
SDIFFQ 26
SDIFFQ 27
SDIFFQ 28
SDIFFQ 29
SDIFFQ 30
SCNTRL 2
SCNTRL 3
SCNTRL 4
SCNTRL 5
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00037	COMMON /ICNTRL/	KLIALB	SCNTRL 44
00038	COMMON /ICNTRL/	KLIGW	SCNTRL 45
00039	COMMON /ICNTRL/	KLISST	SCNTRL 46
00040	COMMON /ICNTRL/	KS	SCNTRL 47
00041	COMMON /ICNTRL/	KU	SCNTRL 48
00042	COMMON /ICNTRL/	LOGBR	SCNTRL 49
00043	COMMON /ICNTRL/	MATIN	SCNTRL 50
00044	COMMON /ICNTRL/	MATSNX	SCNTRL 51
00045	COMMON /ICNTRL/	MATSUN	SCNTRL 52
00046	COMMON /ICNTRL/	MLF (12)	SCNTRL 53
00047	COMMON /ICNTRL/	MROD	SCNTRL 54
00048	COMMON /ICNTRL/	NKRSH	SCNTRL 55
00049	COMMON /ICNTRL/	MSM	SCNTRL 56
00050	COMMON /ICNTRL/	NB	SCNTRL 57
00051	COMMON /ICNTRL/	ND	SCNTRL 58
00052	COMMON /ICNTRL/	NDALT	SCNTRL 59
00053	COMMON /ICNTRL/	NDAY	SCNTRL 60
00054	COMMON /ICNTRL/	NDOUT	SCNTRL 61
00055	COMMON /ICNTRL/	NDPHY	SCNTRL 62
00056	COMMON /ICNTRL/	NDSHF	SCNTRL 63
00057	COMMON /ICNTRL/	NDT	SCNTRL 64
00058	COMMON /ICNTRL/	NHMS	SCNTRL 65
00059	COMMON /ICNTRL/	NHMSE	SCNTRL 66
00060	COMMON /ICNTRL/	NHMSO	SCNTRL 67
00061	COMMON /ICNTRL/	NLAY	SCNTRL 68
00062	COMMON /ICNTRL/	NLAYM1	SCNTRL 69
00063	COMMON /ICNTRL/	NLAYP1	SCNTRL 70
00064	COMMON /ICNTRL/	NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/	NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/	ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/	NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/	ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/	NYMD	SCNTRL 76
00070	COMMON /ICNTRL/	NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/	NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/	NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/	NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/	NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/	IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/	IQU (10)	SCNTRL 83
C			
00077	EQUIVALENCE	(ITMIN .IQS(1))	SCNTRL 84
00078	EQUIVALENCE	(ITMAX .IQS(2))	SCNTRL 85
00079	EQUIVALENCE	(IPREACC .IQS(3))	SCNTRL 86
00080	EQUIVALENCE	(IPRECON .IQS(4))	SCNTRL 87
00081	EQUIVALENCE	(IHFLUX .IQS(5))	SCNTRL 88
00082	EQUIVALENCE	(IEFLUX .IQS(6))	SCNTRL 89
00083	EQUIVALENCE	(IFUSION .IQS(7))	SCNTRL 90
00084	EQUIVALENCE	(IRADSWG .IQS(8))	SCNTRL 91
00085	EQUIVALENCE	(IRADLWG .IQS(9))	SCNTRL 92
00086	EQUIVALENCE	(IICLOUD .IQS(10))	SCNTRL 93
C			
00087	EQUIVALENCE	(IOMEGA .IQU(1))	SCNTRL 94
00088	EQUIVALENCE	(IDIABAT .IQU(2))	SCNTRL 95
00089	EQUIVALENCE	(IRADSW .IQU(3))	SCNTRL 96
C			
00090	EQUIVALENCE	(IC0,IC(1))	SCNTRL 97
00091	INTEGER	IC0, IC(200)	SCNTRL 98
C			
C LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD			
C =====			
C			
00092	COMMON /LCNTRL/	LC0	SCNTRL 99
00093	COMMON /LCNTRL/	QALT	SCNTRL 100
00094	COMMON /LCNTRL/	QBEG	SCNTRL 101
00095	COMMON /LCNTRL/	QDAY	SCNTRL 102
00096	COMMON /LCNTRL/	QEND	SCNTRL 103
00097	COMMON /LCNTRL/	QOUT	SCNTRL 104
00098	COMMON /LCNTRL/	QPHY	SCNTRL 105
00099	COMMON /LCNTRL/	QSHF	SCNTRL 106
00100	COMMON /LCNTRL/	SN2FLG	SCNTRL 107
00101	COMMON /LCNTRL/	QRSW	SCNTRL 108
			SCNTRL 109
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			SCNTRL 111
			SCNTRL 112
			SCNTRL 113
			SCNTRL 114


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00164 COMMON /RCNTRL/ PI2
00165 COMMON /RCNTRL/ PSTD
00166 COMMON /RCNTRL/ PIMEAN
00167 COMMON /RCNTRL/ PSMAX
00168 COMMON /RCNTRL/ PSMIN
00169 COMMON /RCNTRL/ PTOP
00170 COMMON /RCNTRL/ RADE
00171 COMMON /RCNTRL/ RCAS
00172 COMMON /RCNTRL/ ROCP
00173 COMMON /RCNTRL/ RSDIST
00174 COMMON /RCNTRL/ SDAY
00175 COMMON /RCNTRL/ SEASON
00176 COMMON /RCNTRL/ SIGE (25)
00177 COMMON /RCNTRL/ SIND
00178 COMMON /RCNTRL/ SOLS
00179 COMMON /RCNTRL/ TSTD
00180 COMMON /RCNTRL/ PLEVS (25)
00181 COMMON /RCNTRL/ HEATW
00182 COMMON /RCNTRL/ HEATI
00183 COMMON /RCNTRL/ EPS
00184 COMMON /RCNTRL/ EPSFAC
00185 COMMON /RCNTRL/ CALTOJ
00186 COMMON /RCNTRL/ PZERO

C
00187 EQUIVALENCE (RCO,RC(1))
00188 REAL RC0, RC(200)

C
C INTEGER MODEL CONSTANTS
C =====
00189 COMMON /IDPARM/ IJUMP (46)
00190 COMMON /IDPARM/ IDSP02
00191 COMMON /IDPARM/ INDEX (72)
00192 COMMON /IDPARM/ IROD
00193 COMMON /IDPARM/ JC (46)
00194 COMMON /IDPARM/ JE (2)
00195 COMMON /IDPARM/ JP (2,2)
00196 COMMON /IDPARM/ KSTEP
00197 COMMON /IDPARM/ MJ (46)
00198 COMMON /IDPARM/ NHMS1
00199 COMMON /IDPARM/ NYMD1

C
C LOGICAL MODEL CONSTANTS
C =====
00200 COMMON /LDPARM/ FILTER (46)
00201 COMMON /LDPARM/ ITAPE
00202 COMMON /LDPARM/ START

C
00203 LOGICAL FILTER
00204 LOGICAL ITAPE
00205 LOGICAL START

C
C REAL MODEL CONSTANTS
C =====
00206 COMMON /RDPARM/ ADLDP
00207 COMMON /RDPARM/ CON1
00208 COMMON /RDPARM/ CON1DT
00209 COMMON /RDPARM/ CON2
00210 COMMON /RDPARM/ CON2DT
00211 COMMON /RDPARM/ CON3
00212 COMMON /RDPARM/ CON3DT
00213 COMMON /RDPARM/ CON4
00214 COMMON /RDPARM/ CON4DT
00215 COMMON /RDPARM/ CON5
00216 COMMON /RDPARM/ COSL (46)
00217 COMMON /RDPARM/ COSLON (72)
00218 COMMON /RDPARM/ CPD2
00219 COMMON /RDPARM/ DXP (46)
00220 COMMON /RDPARM/ DXYP (46)
00221 COMMON /RDPARM/ DYP (46)
00222 COMMON /RDPARM/ FCORLS (46)
00223 COMMON /RDPARM/ F1DT

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00224 COMMON /RDPARM/ F2DT
 00225 COMMON /RDPARM/ H1DT
 00226 COMMON /RDPARM/ H2DT
 00227 COMMON /RDPARM/ PKSTD
 00228 COMMON /RDPARM/ PKTOP
 00229 COMMON /RDPARM/ RLAT (46)
 00230 COMMON /RDPARM/ RLATD (46)
 00231 COMMON /RDPARM/ ROCFDT
 00232 COMMON /RDPARM/ ROCPPT
 00233 COMMON /RDPARM/ SGNP (2)
 00234 COMMON /RDPARM/ SINL (46)
 00235 COMMON /RDPARM/ SINLON (72)
 00236 COMMON /RDPARM/ THSTD
 00237 COMMON /RDPARM/ THSTD2
 00238 COMMON /RDPARM/ WSAVE (159)
 00239 COMMON /RDPARM/ DSIG (9)
 00240 COMMON /RDPARM/ SIG (9)

C

C * * *

C GLOBAL MODEL SURFACE FIELDS

00241 COMMON /QANDQT/ QS(72,19,46)

C

00242 DIMENSION PHIS(1368,1)
 00243 DIMENSION SMTH(1368,23)
 00244 DIMENSION ALBEDO(1368,1)
 00245 DIMENSION GT(1368,1)
 00246 DIMENSION GW(1368,1)
 00247 DIMENSION TS(1368,1)
 00248 DIMENSION SHS(1368,1)
 00249 DIMENSION P(72,19,1)
 00250 DIMENSION TMIN(1368,1)
 00251 DIMENSION TMAX(1368,1)
 00252 DIMENSION PREACC(1368,1)
 00253 DIMENSION PRECON(1368,1)
 00254 DIMENSION HFLUX(1368,1)
 00255 DIMENSION EFLUX(1368,1)
 00256 DIMENSION FUSION(1368,1)
 00257 DIMENSION RADSWG(1368,1)
 00258 DIMENSION RADLWG(1368,1)
 00259 DIMENSION ICLOUD(1368,1)

C

00260 EQUIVALENCE (QS(1,1,1),PHIS(1,1))
 00261 EQUIVALENCE (QS(1,2,1),SMTH(1,1))
 00262 EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))
 00263 EQUIVALENCE (QS(1,4,1),GT(1,1))
 00264 EQUIVALENCE (QS(1,5,1),GW(1,1))
 00265 EQUIVALENCE (QS(1,6,1),TS(1,1))
 00266 EQUIVALENCE (QS(1,7,1),SHS(1,1))
 00267 EQUIVALENCE (QS(1,8,1),P(1,1,1))
 00268 EQUIVALENCE (QS(1,10,1),TMIN(1,1))
 00269 EQUIVALENCE (QS(1,11,1),TMAX(1,1))
 00270 EQUIVALENCE (QS(1,12,1),PREACC(1,1))
 00271 EQUIVALENCE (QS(1,13,1),PRECON(1,1))
 00272 EQUIVALENCE (QS(1,14,1),HFLUX(1,1))
 00273 EQUIVALENCE (QS(1,15,1),EFLUX(1,1))
 00274 EQUIVALENCE (QS(1,16,1),FUSION(1,1))
 00275 EQUIVALENCE (QS(1,17,1),RADSWG(1,1))
 00276 EQUIVALENCE (QS(1,18,1),RADLWG(1,1))
 00277 EQUIVALENCE (QS(1,19,1),ICLOUD(1,1))

C

C * * *

C GLOBAL MODEL UPPER-AIR FIELDS

00278 COMMON /QANDQT/ QU(72,9,14,46)

C

00279 DIMENSION U(72,9,14,1)
 00280 DIMENSION V(72,9,14,1)
 00281 DIMENSION T(72,9,14,1)
 00282 DIMENSION SH(72,9,14,1)
 00283 DIMENSION PHI(72,9,14,1)
 00284 DIMENSION OMEGA(72,126,1)
 00285 DIMENSION DIABAT(72,126,1)
 00286 DIMENSION RADSW(72,126,1)

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 SQANDQT 54

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STATEMENT LABEL MAP
--LABEL--DEFINED--REFERENCES

10	312	307
10000	303	
50	313	305

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

DIEHQ 7

IC	ICNTRL	INTEGER	ARRAY	90	91									
ICO	ICNTRL	INTEGER	SIMPLE	25	90	91								
ICLOUD	QANDOT	INTEGER	ARRAY	259	277									
ICNTRL		INTEGER	UNKNOWN	25	26	27	28	29	30	31	32	33	34	35
				36	37	38	39	40	41	42	43	44	45	46
				47	48	49	50	51	52	53	54	55	56	57
				58	59	60	61	62	63	64	65	66	67	68
				69	70	71	72	73	74	75	76			
ICSP53	ICNTRL	INTEGER	SIMPLE	65										
ICSP55	ICNTRL	INTEGER	SIMPLE	68										
IDIABAT	ICNTRL	INTEGER	UNKNOWN	88										
IDPARM		INTEGER	UNKNOWN	189	190	191	192	193	194	195	196	197	198	199
IDSP02	IDPARM	INTEGER	SIMPLE	190										
IEFLUX	ICNTRL	INTEGER	UNKNOWN	82										
IFUSION	ICNTRL	INTEGER	UNKNOWN	83										
IHFLUX	ICNTRL	INTEGER	UNKNOWN	81										
IICLOUD	ICNTRL	INTEGER	UNKNOWN	86										
IJUMP	IDPARM	INTEGER	ARRAY	189										
IM	ICNTRL	INTEGER	SIMPLE	26	314	318								
IMD2	ICNTRL	INTEGER	SIMPLE	27										
IMD2P1	ICNTRL	INTEGER	SIMPLE	28										
INDEX	IDPARM	INTEGER	ARRAY	191										
IONEGA	ICNTRL	INTEGER	UNKNOWN	87										
IPREACC	ICNTRL	INTEGER	UNKNOWN	79										
IPRECON	ICNTRL	INTEGER	UNKNOWN	80										
IQS	ICNTRL	INTEGER	ARRAY	75	77	78	79	80	81	82	83	84	85	86
IQU	ICNTRL	INTEGER	ARRAY	76	87	88	89							
IRADLWG	ICNTRL	INTEGER	UNKNOWN	85										
IRADSW	ICNTRL	INTEGER	UNKNOWN	89										
IRADSWG	ICNTRL	INTEGER	UNKNOWN	84										
IROD	IDPARM	INTEGER	SIMPLE	192										
ITAPE	IDPARM	LOGICAL	SIMPLE	201	204									
ITMAX	ICNTRL	INTEGER	UNKNOWN	78										
ITMIN	ICNTRL	INTEGER	UNKNOWN	77										
J		INTEGER	SIMPLE	1	304	315	315	315	319	319	319	320	320	320
				321	321	321	322	322	322	322				
JC	IDPARM	INTEGER	ARRAY	193										
JE	IDPARM	INTEGER	ARRAY	194										
JIC	CCNTRL	CHAR*8	SIMPLE	5	18									
JM	ICNTRL	INTEGER	SIMPLE	30										
JMD2	ICNTRL	INTEGER	SIMPLE	31										
JMT2	ICNTRL	INTEGER	SIMPLE	32										
JNP	ICNTRL	INTEGER	SIMPLE	33										
JO4	ICNTRL	INTEGER	SIMPLE	34										
JOB	ICNTRL	INTEGER	SIMPLE	35										
JOB	CCNTRL	CHAR*8	SIMPLE	6	19									
JP	IDPARM	INTEGER	ARRAY	195										
JSP	ICNTRL	INTEGER	SIMPLE	36										
KLIALB	ICNTRL	INTEGER	SIMPLE	37										
KLIGW	ICNTRL	INTEGER	SIMPLE	38										
KLISST	ICNTRL	INTEGER	SIMPLE	39										
KS	ICNTRL	INTEGER	SIMPLE	40										
KSTEP	IDPARM	INTEGER	SIMPLE	196										
KU	ICNTRL	INTEGER	SIMPLE	41										
L		INTEGER	SIMPLE	307/C	308	308	308	309	309	309	310	310	310	311
				311	311	317/C	319	319	319	320	320	320	321	321
				321	322	322	322							
LC		LOGICAL	ARRAY	143	144									
LC0	LCNTRL	LOGICAL	SIMPLE	92	143	144								
LCNTRL		INTEGER	UNKNOWN	92	93	94	95	96	97	98	99	100	101	102
				103	104									
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	116	141									
LDPARM		INTEGER	UNKNOWN	200	201	202								
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	110	135									
LFUSION	LCNTRL	LOGICAL	UNKNOWN	111	136									
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	109	134									
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	139									
LOGBR	ICNTRL	INTEGER	SIMPLE	42										
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	115	140									
LPREACC	LCNTRL	LOGICAL	UNKNOWN	107	132									

LPRECON	LCNTRL	LOGICAL	UNKNOWN	108	133									
LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114
				128										
LQU	LCNTRL	LOGICAL	ARRAY	104	115	116	117	129						
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138									
LRAWSW	LCNTRL	LOGICAL	UNKNOWN	117	142									
LRAWSWG	LCNTRL	LOGICAL	UNKNOWN	112	137									
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131									
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130									
M		INTEGER	SIMPLE	304/S	305	306	306	306	308	308	308	309	309	309
				310	310	310	311	311	311					
MATIN	ICNTRL	INTEGER	SIMPLE	43										
MATSNX	ICNTRL	INTEGER	SIMPLE	44										
MATSUN	ICNTRL	INTEGER	SIMPLE	45										
MJ	IDPARM	INTEGER	ARRAY	197	304									
MLF	ICNTRL	INTEGER	ARRAY	46										
MROD	ICNTRL	INTEGER	SIMPLE	47										
MSM	ICNTRL	INTEGER	SIMPLE	49										
N1		INTEGER	SIMPLE	1	306	306	308	308	309	309	310	310	311	311
				315	315	315	319	320	320	321	321	322	322	311
N2		INTEGER	SIMPLE	1	306	308	309	310	311	315	319	320	321	322
NB	ICNTRL	INTEGER	SIMPLE	50										
ND	ICNTRL	INTEGER	SIMPLE	51										
NDALT	ICNTRL	INTEGER	SIMPLE	52										
NDAY	ICNTRL	INTEGER	SIMPLE	53										
NDHOG	ICNTRL	INTEGER	SIMPLE	74										
NDOUT	ICNTRL	INTEGER	SIMPLE	54										
NDPHY	ICNTRL	INTEGER	SIMPLE	55										
NDRSW	ICNTRL	INTEGER	SIMPLE	29										
NDSHF	ICNTRL	INTEGER	SIMPLE	56										
NDT	ICNTRL	INTEGER	SIMPLE	57										
NHMS	ICNTRL	INTEGER	SIMPLE	58										
NHMS0	ICNTRL	INTEGER	SIMPLE	60										
NHMS1	IDPARM	INTEGER	SIMPLE	198										
NHMS2	ICNTRL	INTEGER	SIMPLE	55										
NKRSH	ICNTRL	INTEGER	SIMPLE	48										
NLAY	ICNTRL	INTEGER	SIMPLE	61	307	317								
NLAYM1	ICNTRL	INTEGER	SIMPLE	62										
NLAYP1	ICNTRL	INTEGER	SIMPLE	63										
NMLEV	ICNTRL	INTEGER	SIMPLE	73										
NSDAY	ICNTRL	INTEGER	SIMPLE	64										
NSEQ	ICNTRL	INTEGER	SIMPLE	65										
NSTEP	ICNTRL	INTEGER	SIMPLE	67										
NYMD	ICNTRL	INTEGER	SIMPLE	69										
NYMD0	ICNTRL	INTEGER	SIMPLE	71										
NYMD1	IDPARM	INTEGER	SIMPLE	199										
NYMDE	ICNTRL	INTEGER	SIMPLE	70										
NZINIT	ICNTRL	INTEGER	SIMPLE	72										
OMEGA	QANDQT	REAL	ARRAY	284	293									
OMEGA2	ICNTRL	REAL	SIMPLE	161										
P	QANDQT	REAL	ARRAY	249	267	315/S	315	315						
PHI	QANDQT	REAL	ARRAY	283	292									
PHIP	QPOLES	REAL	ARRAY	302										
PHIS	QANDQT	REAL	ARRAY	242	260									
PI	ICNTRL	REAL	SIMPLE	162										
PI180	ICNTRL	REAL	SIMPLE	163										
PI2	ICNTRL	REAL	SIMPLE	164										
RMEAN	ICNTRL	REAL	SIMPLE	166										
PKSTD	RDPARM	REAL	SIMPLE	227										
PKTOP	RDPARM	REAL	SIMPLE	228										
PLEVS	ICNTRL	REAL	ARRAY	180										
PP	QPOLES	REAL	ARRAY	297	305/S	305	305							
PREACC	QANDQT	REAL	ARRAY	252	270									
PRECON	QANDQT	REAL	ARRAY	253	271									
PSMAX	ICNTRL	REAL	SIMPLE	167										
PSMIN	ICNTRL	REAL	SIMPLE	168										
PSTD	ICNTRL	REAL	SIMPLE	165										
PTOP	ICNTRL	REAL	SIMPLE	169										
PZERO	ICNTRL	REAL	SIMPLE	186										
QALT	LCNTRL	LOGICAL	SIMPLE	93	118									

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QANDQT		REAL	UNKNOWN	241	278										
QBEG	LCNTRL	LOGICAL	SIMPLE	94	119										
QDAY	LCNTRL	LOGICAL	SIMPLE	95	120										
QEND	LCNTRL	LOGICAL	SIMPLE	96	121										
QOUT	LCNTRL	LOGICAL	SIMPLE	97	122										
QPHY	LCNTRL	LOGICAL	SIMPLE	98	123										
QPOLES		REAL	UNKNOWN	297	298	299	300	301	302						
QRSW	LCNTRL	LOGICAL	SIMPLE	102	127										
QRSW	LCNTRL	LOGICAL	SIMPLE	101	126										
QS	QANDQT	REAL	ARRAY	241	260	261	262	263	264	265	266	267	268	269	
				270	271	272	273	274	275	276	277				
QSHF	LCNTRL	LOGICAL	SIMPLE	99	124										
QU	QANDQT	REAL	ARRAY	278	288	289	290	291	292	293	294	295	296		
RADE	RCNTRL	REAL	SIMPLE	170											
RADLW	QANDQT	REAL	ARRAY	287	296										
RADLWG	QANDQT	REAL	ARRAY	258	276										
RADSW	QANDQT	REAL	ARRAY	286	295										
RADSWG	QANDQT	REAL	ARRAY	257	275										
RC	RCNTRL	REAL	ARRAY	187	188										
RCO															
RCNTRL	RCNTRL	REAL	SIMPLE	145	187	188									
		REAL	UNKNOWN	145	146	147	148	149	150	151	152	153	154	155	
				156	157	158	159	160	161	162	163	164	165	166	
				167	168	169	170	171	172	173	174	175	176	177	
				178	179	180	181	182	183	184	185	186			
RDPARM		REAL	UNKNOWN	206	207	208	209	210	211	212	213	214	215	216	
				217	218	219	220	221	222	223	224	225	226	227	
				228	229	230	231	232	233	234	235	236	237	238	
				239	240										
RGAS	RCNTRL	REAL	SIMPLE	171											
RLAT	RDPARM	REAL	ARRAY	229											
RLATD	RDPARM	REAL	ARRAY	230											
ROCP	RCNTRL	REAL	SIMPLE	172											
ROCPDT	RDPARM	REAL	SIMPLE	231											
ROCPPI	RDPARM	REAL	SIMPLE	232											
RSDIST	RCNTRL	REAL	SIMPLE	173											
SDAY	RCNTRL	REAL	SIMPLE	174											
SEASON	RCNTRL	REAL	SIMPLE	175											
SGNP	RDPARM	REAL	ARRAY	233											
SH	QANDQT	REAL	ARRAY	282	291	322/S	322	322							
SHP	QPOLES	REAL	ARRAY	301	311/S	311	311								
SHS	QANDQT	REAL	ARRAY	248	266										
SIG	RDPARM	REAL	ARRAY	240											
SIGE	RCNTRL	REAL	ARRAY	176											
SIND	RCNTRL	REAL	SIMPLE	177											
SINL	RDPARM	REAL	ARRAY	234											
SINLON	RDPARM	REAL	ARRAY	235											
SMTH	QANDQT	REAL	ARRAY	243	261										
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125										
SOLS	RCNTRL	REAL	SIMPLE	178											
START	LDPARM	LOGICAL	SIMPLE	202	205										
T	QANDQT	REAL	ARRAY	281	290	321/S	321	321							
THSTD	RDPARM	REAL	SIMPLE	236											
THSTD2	RDPARM	REAL	SIMPLE	237											
TMAX	QANDQT	REAL	ARRAY	251	269										
TMIN	QANDQT	REAL	ARRAY	250	268										
TP	QPOLES	REAL	ARRAY	300	310/S	310	310								
TS	QANDQT	REAL	ARRAY	247	265										
TSTD	RCNTRL	REAL	SIMPLE	179											
U	QANDQT	REAL	ARRAY	279	288	319/S	319	319							
UP	QPOLES	REAL	ARRAY	298	308/S	308	308								
V	QANDQT	REAL	ARRAY	280	289	320/S	320	320							
VER	CCNTRL	CHAR*B	SIMPLE	10	23										
VP	QPOLES	REAL	ARRAY	299	309/S	309	309								
WSAVE	RDPARM	REAL	ARRAY	238											
XLABEL	CCNTRL	CHAR*B	ARRAY	11	24										

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00001  FUNCTION EXPBYK(XD)
C .....
C PURPOSE
C   COMPUTE (EXPBYK = X**0.2861328125).
C   THIS SCHEME CHOSEN TO MATCH THE VECTOR ALGORITHM.
C   CALLED BY COMP1, GEOHT, SMSHAP, ???
C
C USAGE
C
C ARGUMENTS   DESCRIPTION
C   XD        PRESSURE
C   EXPBYK    XD**0.2861328125
C
C SUBPROGRAMS NEEDED
C   NAME      DESCRIPTION
C   NONE
C
C RECORD OF MODIFICATIONS
C   BASED ON OLD VERSION 8
C
C   ?DATE?    ?PROGRAMMER?  ?DESCRIPTION OF MODIFICATIONS?
C   05/19/83  RAMESH        THIS PART AND COMMENTS
C
C REMARKS:
C   ( ) ?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.?
C .....
C M / A - C O M S I G M A D A T A I N C .   N A S A -   G S F C
C .....
00002  EXPBYK = SQRT(XD)
00003  EXPBYK = SQRT(EXPBYK)
00004  TEMPID = SQRT(EXPBYK)
00005  TEMPID = SQRT( TEMPID)
00006  TEMPID = SQRT( TEMPID)
00007  EXPBYK = EXPBYK*TEMPID
00008  TEMPID = SQRT( TEMPID)
00009  TEMPID = SQRT( TEMPID)
00010  TEMPID = SQRT( TEMPID)
00011  EXPBYK = EXPBYK*TEMPID
00012  TEMPID = SQRT( TEMPID)
00013  TEMPID = SQRT( TEMPID)
00014  EXPBYK = EXPBYK*TEMPID
00015  RETURN
00016  END

```

```

SEXPCBYK 2
SEXPCBYK 3
SEXPCBYK 4
SEXPCBYK 5
SEXPCBYK 6
SEXPCBYK 7
SEXPCBYK 8
SEXPCBYK 9
SEXPCBYK 10
SEXPCBYK 11
SEXPCBYK 12
SEXPCBYK 13
SEXPCBYK 14
SEXPCBYK 15
SEXPCBYK 16
SEXPCBYK 17
SEXPCBYK 18
SEXPCBYK 19
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SEXPCBYK 32
SEXPCBYK 33
SEXPCBYK 34
SEXPCBYK 35
SEXPCBYK 36
SEXPCBYK 37
SEXPCBYK 38
SEXPCBYK 39
SEXPCBYK 40
SEXPCBYK 41
SEXPCBYK 42
SEXPCBYK 43
SEXPCBYK 44
SEXPCBYK 45

```

VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES	A=ARGLIST	C=CTRL OF DO	I=DATA INIT	R=READ	S=STORE	W=WRITE				
EXPBYK		REAL	FUNCTION	1	2/S	3/S	3	4	7/S	7	11/S	11	14/S	14
TEMPID		REAL	SIMPLE	4/S	5/S	5	6/S	6	7	8/S	8	9/S	9	10
XD		REAL	SIMPLE	10	11	12/S	12	13/S	13	14				

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT FN DEF	A=ARGLIST
SQRT	REAL	INTRINSIC	2	3	4

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```
00001 SUBROUTINE FILFFT (A, F, M, WSAVE) SFILFPT 2
C ***** SFILFPT 3
C PURPOSE SFILFPT 4
C FILTERS A ONE-DIMENSIONAL ARRAY BY WAVE-NUMBER. SFILFPT 5
C CALLED BY AVRX ONLY SFILFPT 6
C USAGE SFILFPT 7
C ARGUMENTS DESCRIPTION SFILFPT 8
C   A      ARRAY TO FILTER SFILFPT 9
C   F      ARRAY CONTAINING WAVE-NUMBER FILTERS (BETWEEN 0. AND 1.) SFILFPT 10
C           F(1) FILTERS THE MEAN MAGNITUDE OF THE ARRAY SFILFPT 11
C           F(2*I) AND F(2*I+1) FILTER WAVE NUMBER I, FOR 0<I<M SFILFPT 12
C           F(M) FILTERS WAVE NUMBER M/2 (WAVES OF LENGTH 2) SFILFPT 13
C   M      LENGTH OF ARRAY TO FILTER SFILFPT 14
C   WSAVE  ROOTS OF 1. PREVIOUSLY COMPUTED IN ROUTINE RFFTF SFILFPT 15
C SUBPROGRAMS NEEDED SFILFPT 16
C   NAME    DESCRIPTION SFILFPT 17
C   RFFTF   FORWARD FAST FOURIER TRANSFORM SFILFPT 18
C   RFTTB   BACKWARD FAST FOURIER TRANSFORM SFILFPT 19
C RECORD OF MODIFICATIONS BASED ON OLD VERSION B. SFILFPT 20
C       ?DATE?     ?PROGRAMMER?   ?DESCRIPTION OF MODIFICATIONS? SFILFPT 21
C       05/04/83   RAMESH        THIS PART AND COMMENTS SFILFPT 22
C REMARKS: SFILFPT 23
C   (1) REFER TO THE DOCUMENTATION OF THE NCAR FAST FOURIER TRANSFORMS SFILFPT 24
C       IN 'NCARFFT DOCUMENT' ON SYSLIB 191 SFILFPT 25
C   (2) *MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.* SFILFPT 26
C ***** SFILFPT 27
C M / A - C O M S I G M A D A T A I N C .   N A S A - G S F C SFILFPT 28
C ***** SFILFPT 29
00002 DIMENSION A(M), F(M), WSAVE(159) SFILFPT 30
C DEBUG SFILFPT 31
00003 10000 CONTINUE SBEGDEB 2
C **** CYBER SCALAR VERSION 04.001 INPUT,IOQ SBEGDEB 3
C **** CYBER SCALAR VERSION 04.000 SBEGDEB 4
C **** CYBER SCALAR VERSION 00 SBEGDEB 5
C $$$$$$$$$$SBEGDEB 6
C ***** SFILFPT 40
C RESOLVE ARRAY INTO FOURIER WAVE COEFFICIENTS SFILFPT 41
C ***** SFILFPT 42
C RESOLVE FILTERED FOURIER WAVE COEFFICIENTS SFILFPT 43
C ***** SFILFPT 44
00004 CALL RFFTF (M,A,WSAVE) SFILFPT 45
C ***** SFILFPT 46
C ***** SFILFPT 47
C ***** SFILFPT 48
C ***** SFILFPT 49
C ***** SFILFPT 50
C ***** SFILFPT 51
C ***** SFILFPT 52
C ***** SFILFPT 53
C ***** SFILFPT 54
00005 DO 10 I=1,M SFILFPT 55
00006 A(I) = A(I)*F(I)/M SFILFPT 56
00007 10 CONTINUE SFILFPT 57
C ***** SFILFPT 58
C ***** SFILFPT 59
C ***** SFILFPT 60
C ***** SFILFPT 61
C ***** SFILFPT 62
C ***** SFILFPT 63
C ***** SFILFPT 64
00008 CALL RFTTB (M,A,WSAVE) SFILFPT 65
00009 RETURN SFILFPT 66
```

00010 END

SFILFFT 68

STATEMENT LABEL MAP
--LABEL-----DEFINED-----REFERENCES

10	7	5
10000	3	

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST, C=CTRL OF DO I=DATA INIT, R=READ, S=STORE, W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES	A	C	I	R	S	W
A		REAL	ARRAY	1	2	4	6/S	6	8	
F		REAL	ARRAY	1	2	6				
FILFFT			SUBROUTINE	1						
I		INTEGER	SIMPLE	5	6	6	6			
M		INTEGER	SIMPLE	1	2	2	4	5	6	8
WSAVE		REAL	ARRAY	1	2	4	8			

PROCEDURE MAP

--NAME-----TYPE-----CLASS-----REFERENCES

D=STMT FN DEF, A=ARGLIST

NAME	TYPE	CLASS	REFERENCES
RFFT8		SUBROUTINE	8
RFFT6		SUBROUTINE	4

```

00001 SUBROUTINE GEOHT (N,J)
C-----
C PURPOSE
C CALCULATE PHILLIPS NORMALIZED GEOPOTENTIAL HEIGHTS
C AT SIGMA EDGES.
C CALLED BY COMPO ONLY
C-----
C USAGE
C-----
C ARGUMENTS DESCRIPTION
C N TIME-STEP POINTER AT WHICH TO CALCULATE HEIGHTS
C J LATITUDE BAND NUMBER
C-----
C SUBPROGRAMS NEEDED
C NAME DESCRIPTION
C EXPBYK COMPUTES P**KAPPA AND KAPPA=.2851328125
C-----
C RECORD OF MODIFICATIONS
C BASED ON OLD VERSION 8.
C-----
C ?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS?
C 05/04/83 RAMESH THIS PART AND COMMENTS
C-----
C REMARKS:
C ( 1 ) ?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.?
C-----
C M / A - C O M S I G M A D A T A I N C . N A S A - G S F C
C-----
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C-----
00002 COMMON /CCNTRL/ CC0
00003 COMMON /CCNTRL/ ADATE
00004 COMMON /CCNTRL/ ATIME
00005 COMMON /CCNTRL/ JIC
00006 COMMON /CCNTRL/ JOB
00007 COMMON /CCNTRL/ CCSP06
00008 COMMON /CCNTRL/ CCSP07
00009 COMMON /CCNTRL/ CCSP08
00010 COMMON /CCNTRL/ VER
00011 COMMON /CCNTRL/ XLABEL (10)
00012 COMMON /CCNTRL/ CQS (30)
00013 COMMON /CCNTRL/ COU (10)
C-----
00014 EQUIVALENCE (CC0,CC(1))
00015 CHARACTER*8 CC0, CC(200)
00016 CHARACTER*8 ADATE
00017 CHARACTER*8 ATIME
00018 CHARACTER*8 JIC
00019 CHARACTER*8 JOB
00020 CHARACTER*8 CCSP06
00021 CHARACTER*8 CCSP07
00022 CHARACTER*8 CCSP08
00023 CHARACTER*8 VER
00024 CHARACTER*8 XLABEL
C-----
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C-----
00025 COMMON /ICNTRL/ IC0
00026 COMMON /ICNTRL/ IM
00027 COMMON /ICNTRL/ IMD2
00028 COMMON /ICNTRL/ IMD2P1
00029 COMMON /ICNTRL/ NDRSW
00030 COMMON /ICNTRL/ JM
00031 COMMON /ICNTRL/ JMD2
00032 COMMON /ICNTRL/ JMT2
00033 COMMON /ICNTRL/ JNP
00034 COMMON /ICNTRL/ JO4
00035 COMMON /ICNTRL/ JO8
00036 COMMON /ICNTRL/ JSP

```

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SGEOHT 2
SGEOHT 3
SGEOHT 4
SGEOHT 5
SGEOHT 6
SGEOHT 7
SGEOHT 8
SGEOHT 9
SGEOHT 10
SGEOHT 11
SGEOHT 12
SGEOHT 13
SGEOHT 14
SGEOHT 15
SGEOHT 16
SGEOHT 17
SGEOHT 18
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SGEOHT 20
SGEOHT 21
SGEOHT 22
SGEOHT 23
SGEOHT 24
SGEOHT 25
SGEOHT 26
SGEOHT 27
SGEOHT 28
SGEOHT 29
SGEOHT 30
SCNTRL 2
SCNTRL 3
SCNTRL 4
SCNTRL 5
SCNTRL 6
SCNTRL 7
SCNTRL 8
SCNTRL 9
SCNTRL 10
SCNTRL 11
SCNTRL 12
SCNTRL 13
SCNTRL 14
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SCNTRL 31
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SCNTRL 33
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SCNTRL 37
SCNTRL 38
SCNTRL 39
SCNTRL 40
SCNTRL 41
SCNTRL 42
SCNTRL 43

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00037	COMMON /ICNTRL/ KLIALB	SCNTRL 44
00038	COMMON /ICNTRL/ KLIW	SCNTRL 45
00039	COMMON /ICNTRL/ KLISST	SCNTRL 46
00040	COMMON /ICNTRL/ KS	SCNTRL 47
00041	COMMON /ICNTRL/ KU	SCNTRL 48
00042	COMMON /ICNTRL/ LOGBR	SCNTRL 49
00043	COMMON /ICNTRL/ MATIN	SCNTRL 50
00044	COMMON /ICNTRL/ MATSNX	SCNTRL 51
00045	COMMON /ICNTRL/ MATSUN	SCNTRL 52
00046	COMMON /ICNTRL/ MLF (12)	SCNTRL 53
00047	COMMON /ICNTRL/ MROD	SCNTRL 54
00048	COMMON /ICNTRL/ NKRSH	SCNTRL 55
00049	COMMON /ICNTRL/ MSM	SCNTRL 56
00050	COMMON /ICNTRL/ NB	SCNTRL 57
00051	COMMON /ICNTRL/ ND	SCNTRL 58
00052	COMMON /ICNTRL/ NDALT	SCNTRL 59
00053	COMMON /ICNTRL/ NDAY	SCNTRL 60
00054	COMMON /ICNTRL/ NDOUT	SCNTRL 61
00055	COMMON /ICNTRL/ NDPHY	SCNTRL 62
00056	COMMON /ICNTRL/ NDSHF	SCNTRL 63
00057	COMMON /ICNTRL/ NDT	SCNTRL 64
00058	COMMON /ICNTRL/ NHMS	SCNTRL 65
00059	COMMON /ICNTRL/ NHMSE	SCNTRL 66
00060	COMMON /ICNTRL/ NHMSO	SCNTRL 67
00061	COMMON /ICNTRL/ NLAY	SCNTRL 68
00062	COMMON /ICNTRL/ NLAYM1	SCNTRL 69
00063	COMMON /ICNTRL/ NLAYP1	SCNTRL 70
00064	COMMON /ICNTRL/ NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
C		SCNTRL 84
00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 85
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 86
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 87
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 88
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 89
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 91
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 92
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 93
00086	EQUIVALENCE (IICLOUD ,IQS(10))	SCNTRL 94
C		SCNTRL 95
00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 96
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 97
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 98
C		SCNTRL 99
00090	EQUIVALENCE (ICO,IC(1))	SCNTRL 100
00091	INTEGER ICO, IC(200)	SCNTRL 101
C		SCNTRL 102
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL 103
C	=====	SCNTRL 104
00092	COMMON /LCNTRL/ LCO	SCNTRL 105
00093	COMMON /LCNTRL/ QALT	SCNTRL 106
00094	COMMON /LCNTRL/ QBEG	SCNTRL 107
00095	COMMON /LCNTRL/ QDAY	SCNTRL 108
00096	COMMON /LCNTRL/ QEND	SCNTRL 109
00097	COMMON /LCNTRL/ QOUT	SCNTRL 110
00098	COMMON /LCNTRL/ QPHY	SCNTRL 111
00099	COMMON /LCNTRL/ QSHF	SCNTRL 112
00100	COMMON /LCNTRL/ SN2FLG	SCNTRL 113
00101	COMMON /LCNTRL/ QRSW	SCNTRL 114

00102	COMMON /LCNTRL/	QRSH	SCNTRL 115
00103	COMMON /LCNTRL/	LQS(30)	SCNTRL 116
00104	COMMON /LCNTRL/	LQU(10)	SCNTRL 117
	C		SCNTRL 118
00105	EQUIVALENCE	(LTMIN ,LQS(1))	SCNTRL 119
00106	EQUIVALENCE	(LTMAX ,LQS(2))	SCNTRL 120
00107	EQUIVALENCE	(LPREACC ,LQS(3))	SCNTRL 121
00108	EQUIVALENCE	(LPRECON ,LQS(4))	SCNTRL 122
00109	EQUIVALENCE	(LHFLUX ,LQS(5))	SCNTRL 123
00110	EQUIVALENCE	(LEFLUX ,LQS(6))	SCNTRL 124
00111	EQUIVALENCE	(LFUSION ,LQS(7))	SCNTRL 125
00112	EQUIVALENCE	(LRADSWG ,LQS(8))	SCNTRL 126
00113	EQUIVALENCE	(LRADLWG ,LQS(9))	SCNTRL 127
00114	EQUIVALENCE	(LICLOUD ,LQS(10))	SCNTRL 128
	C		SCNTRL 129
00115	EQUIVALENCE	(LOMEGA ,LQU(1))	SCNTRL 130
00116	EQUIVALENCE	(LDIABAT ,LQU(2))	SCNTRL 131
00117	EQUIVALENCE	(LRADSW ,LQU(3))	SCNTRL 132
	C		SCNTRL 133
00118	LOGICAL	QALT	SCNTRL 134
00119	LOGICAL	QBEG	SCNTRL 135
00120	LOGICAL	QDAY	SCNTRL 136
00121	LOGICAL	QEND	SCNTRL 137
00122	LOGICAL	QOUT	SCNTRL 138
00123	LOGICAL	QPHY	SCNTRL 139
00124	LOGICAL	QSHF	SCNTRL 140
00125	LOGICAL	SN2FLG	SCNTRL 141
00126	LOGICAL	QRSW	SCNTRL 142
00127	LOGICAL	QRSH	SCNTRL 143
	C		SCNTRL 144
00128	LOGICAL	LQS	SCNTRL 145
00129	LOGICAL	LQU	SCNTRL 146
00130	LOGICAL	LTMIN	SCNTRL 147
00131	LOGICAL	LTMAX	SCNTRL 148
00132	LOGICAL	LPREACC	SCNTRL 149
00133	LOGICAL	LPRECON	SCNTRL 150
00134	LOGICAL	LHFLUX	SCNTRL 151
00135	LOGICAL	LEFLUX	SCNTRL 152
00136	LOGICAL	LFUSION	SCNTRL 153
00137	LOGICAL	LRADSWG	SCNTRL 154
00138	LOGICAL	LRADLWG	SCNTRL 155
00139	LOGICAL	LICLOUD	SCNTRL 156
	C		SCNTRL 157
00140	LOGICAL	LOMEGA	SCNTRL 158
00141	LOGICAL	LDIABAT	SCNTRL 159
00142	LOGICAL	LRADSW	SCNTRL 160
	C		SCNTRL 161
00143	EQUIVALENCE	(LC0,LC(1))	SCNTRL 162
00144	LOGICAL	LC0, LC(200)	SCNTRL 163
	C		SCNTRL 164
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL 165
	C	=====	SCNTRL 166
00145	COMMON /RCNTRL/	RCO	SCNTRL 167
00146	COMMON /RCNTRL/	APHEL	SCNTRL 168
00147	COMMON /RCNTRL/	BETA	SCNTRL 169
00148	COMMON /RCNTRL/	COSD	SCNTRL 170
00149	COMMON /RCNTRL/	CP	SCNTRL 171
00150	COMMON /RCNTRL/	DAYSPLY	SCNTRL 172
00151	COMMON /RCNTRL/	DEC	SCNTRL 173
00152	COMMON /RCNTRL/	DECMAX	SCNTRL 174
00153	COMMON /RCNTRL/	DIST	SCNTRL 175
00154	COMMON /RCNTRL/	DLAT	SCNTRL 176
00155	COMMON /RCNTRL/	DION	SCNTRL 177
00156	COMMON /RCNTRL/	DT	SCNTRL 178
00157	COMMON /RCNTRL/	ECCN	SCNTRL 179
00158	COMMON /RCNTRL/	GNU1	SCNTRL 180
00159	COMMON /RCNTRL/	GNU2	SCNTRL 181
00160	COMMON /RCNTRL/	GRAV	SCNTRL 182
00161	COMMON /RCNTRL/	OMEGA2	SCNTRL 183
00162	COMMON /RCNTRL/	PI	SCNTRL 184
00163	COMMON /RCNTRL/	PI180	SCNTRL 185

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00164      COMMON /RCNTRL/ PI2
00165      COMMON /RCNTRL/ PSTD
00166      COMMON /RCNTRL/ PIMEAN
00167      COMMON /RCNTRL/ PSMAX
00168      COMMON /RCNTRL/ PSMIN
00169      COMMON /RCNTRL/ PTOP
00170      COMMON /RCNTRL/ RADE
00171      COMMON /RCNTRL/ RGAS
00172      COMMON /RCNTRL/ ROCP
00173      COMMON /RCNTRL/ RSDIST
00174      COMMON /RCNTRL/ SOAY
00175      COMMON /RCNTRL/ SEASON
00176      COMMON /RCNTRL/ SIGE (25)
00177      COMMON /RCNTRL/ SIND
00178      COMMON /RCNTRL/ SOLS
00179      COMMON /RCNTRL/ TSTD
00180      COMMON /RCNTRL/ PLEVS (25)
00181      COMMON /RCNTRL/ HEATW
00182      COMMON /RCNTRL/ HEATI
00183      COMMON /RCNTRL/ EPS
00184      COMMON /RCNTRL/ EPSFAC
00185      COMMON /RCNTRL/ CALTOJ
00186      COMMON /RCNTRL/ PZERO

C
00187      EQUIVALENCE (RCO,RC(1))
00188      REAL RC0, RC(200)

C
C   INTEGER MODEL CONSTANTS
C   =====
00189      COMMON /IDPARM/ IJUMP (46)
00190      COMMON /IDPARM/ IDSP02
00191      COMMON /IDPARM/ INDEX (72)
00192      COMMON /IDPARM/ IROD
00193      COMMON /IDPARM/ JC (46)
00194      COMMON /IDPARM/ JE (2)
00195      COMMON /IDPARM/ JP (2,2)
00196      COMMON /IDPARM/ KSTEP
00197      COMMON /IDPARM/ MJ (46)
00198      COMMON /IDPARM/ NHMS1
00199      COMMON /IDPARM/ NYMD1

C
C   LOGICAL MODEL CONSTANTS
C   =====
00200      COMMON /LDPARM/ FILTER (46)
00201      COMMON /LDPARM/ ITAPE
00202      COMMON /LDPARM/ START

C
00203      LOGICAL FILTER
00204      LOGICAL ITAPE
00205      LOGICAL START

C
C   REAL MODEL CONSTANTS
C   =====
00206      COMMON /RDPARM/ ADLDP
00207      COMMON /RDPARM/ CON1
00208      COMMON /RDPARM/ CON1DT
00209      COMMON /RDPARM/ CON2
00210      COMMON /RDPARM/ CON2DT
00211      COMMON /RDPARM/ CON3
00212      COMMON /RDPARM/ CON3DT
00213      COMMON /RDPARM/ CON4
00214      COMMON /RDPARM/ CON4DT
00215      COMMON /RDPARM/ CON5
00216      COMMON /RDPARM/ COSL (46)
00217      COMMON /RDPARM/ COSLON (72)
00218      COMMON /RDPARM/ OPD2
00219      COMMON /RDPARM/ DXF (46)
00220      COMMON /RDPARM/ DXYP (46)
00221      COMMON /RDPARM/ DYP (46)
00222      COMMON /RDPARM/ FOORLS (46)
00223      COMMON /RDPARM/ F1DT

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SCNTRL 186
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SCNTRL 256

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00224 COMMON /RDPARM/ F2DT
 00225 COMMON /RDPARM/ H1DT
 00226 COMMON /RDPARM/ H2DT
 00227 COMMON /RDPARM/ PKSTD
 00228 COMMON /RDPARM/ PKTOP
 00229 COMMON /RDPARM/ RLAT (46)
 00230 COMMON /RDPARM/ RLATD (46)
 00231 COMMON /RDPARM/ ROCFDT
 00232 COMMON /RDPARM/ ROCPP1
 00233 COMMON /RDPARM/ SGNP (2)
 00234 COMMON /RDPARM/ SINL (46)
 00235 COMMON /RDPARM/ SINLON (72)
 00236 COMMON /RDPARM/ THSTD
 00237 COMMON /RDPARM/ THSTD2
 00238 COMMON /RDPARM/ WSAVE (159)
 00239 COMMON /RDPARM/ DSIG (9)
 00240 COMMON /RDPARM/ SIG (9)

C

C

C

GLOBAL MODEL SURFACE FIELDS

COMMON /QANDQT/ QS(72,19,46)

00241

C

00242 DIMENSION PHIS(1368,1)
 00243 DIMENSION SMTH(1368,23)
 00244 DIMENSION ALBEDO(1368,1)
 00245 DIMENSION GT(1368,1)
 00246 DIMENSION GW(1368,1)
 00247 DIMENSION TS(1368,1)
 00248 DIMENSION SHS(1368,1)
 00249 DIMENSION P(72,19,1)
 00250 DIMENSION TMIN(1368,1)
 00251 DIMENSION TMAX(1368,1)
 00252 DIMENSION PREACC(1368,1)
 00253 DIMENSION PRECON(1368,1)
 00254 DIMENSION HFLUX(1368,1)
 00255 DIMENSION EFLUX(1368,1)
 00256 DIMENSION FUSION(1368,1)
 00257 DIMENSION RADSWG(1368,1)
 00258 DIMENSION RADLWG(1368,1)
 00259 DIMENSION ICLOUD(1368,1)
 00260 EQUIVALENCE (QS(1,1,1),PHIS(1,1))
 00261 EQUIVALENCE (QS(1,2,1),SMTH(1,1))
 00262 EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))
 00263 EQUIVALENCE (QS(1,4,1),GT(1,1))
 00264 EQUIVALENCE (QS(1,5,1),GW(1,1))
 00265 EQUIVALENCE (QS(1,6,1),TS(1,1))
 00266 EQUIVALENCE (QS(1,7,1),SHS(1,1))
 00267 EQUIVALENCE (QS(1,8,1),P(1,1,1))
 00268 EQUIVALENCE (QS(1,10,1),TMIN(1,1))
 00269 EQUIVALENCE (QS(1,11,1),TMAX(1,1))
 00270 EQUIVALENCE (QS(1,12,1),PREACC(1,1))
 00271 EQUIVALENCE (QS(1,13,1),PRECON(1,1))
 00272 EQUIVALENCE (QS(1,14,1),HFLUX(1,1))
 00273 EQUIVALENCE (QS(1,15,1),EFLUX(1,1))
 00274 EQUIVALENCE (QS(1,16,1),FUSION(1,1))
 00275 EQUIVALENCE (QS(1,17,1),RADSWG(1,1))
 00276 EQUIVALENCE (QS(1,18,1),RADLWG(1,1))
 00277 EQUIVALENCE (QS(1,19,1),ICLOUD(1,1))

C

C

GLOBAL MODEL UPPER-AIR FIELDS

COMMON /QANDQT/ QU(72,9,14,46)

00278

C

00279 DIMENSION U(72,9,14,1)
 00280 DIMENSION V(72,9,14,1)
 00281 DIMENSION T(72,9,14,1)
 00282 DIMENSION SH(72,9,14,1)
 00283 DIMENSION PHI(72,9,14,1)
 00284 DIMENSION OMEGA(72,126,1)
 00285 DIMENSION DIABAT(72,126,1)
 00286 DIMENSION RADSW(72,126,1)

SCNTRL 257
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 SCNTRL 274
 SQANDQT 2
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 SQANDQT 54

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00287      DIMENSION          RADLW(72,126,1)              SQANDQT   55
C                                                     SQANDQT   56
00288      EQUIVALENCE       (QU(1,1,1,1),U(1,1,1,1))    SQANDQT   57
00289      EQUIVALENCE       (QU(1,1,3,1),V(1,1,1,1))    SQANDQT   58
00290      EQUIVALENCE       (QU(1,1,5,1),T(1,1,1,1))    SQANDQT   59
00291      EQUIVALENCE       (QU(1,1,7,1),SH(1,1,1,1))    SQANDQT   60
00292      EQUIVALENCE       (QU(1,1,9,1),PHI(1,1,1,1))   SQANDQT   61
00293      EQUIVALENCE       (QU(1,1,11,1),OMEGA(1,1,1))  SQANDQT   62
00294      EQUIVALENCE       (QU(1,1,12,1),DIABAT(1,1,1)) SQANDQT   63
00295      EQUIVALENCE       (QU(1,1,13,1),RADSW(1,1,1))  SQANDQT   64
00296      EQUIVALENCE       (QU(1,1,14,1),RADLW(1,1,1))  SQANDQT   65
C                                                     SQANDQT   66
C * * *                                             SPOLES   2
C POLAR MODEL PROGNOSTIC FIELDS                  SPOLES   3
00297      COMMON /QPOLES/ PP(2,2)                SPOLES   4
00298      COMMON /QPOLES/ UP(9,2,2)               SPOLES   5
00299      COMMON /QPOLES/ VP(9,2,2)               SPOLES   6
00300      COMMON /QPOLES/ TP(9,2,2)               SPOLES   7
00301      COMMON /QPOLES/ SHP(9,2,2)              SPOLES   8
00302      COMMON /QPOLES/ PHIP(9,2,2)             SPOLES   9
C                                                     SPOLES  10
C * * *                                             QMSAVE   2
GLOBAL BAND MODULO SAVE AREAS DURING HYDRODYNAMICS STEP
00303      COMMON /QMSAVE/ PM(72,5)                QMSAVE   3
00304      COMMON /QMSAVE/ UM(72,9,5)              QMSAVE   4
00305      COMMON /QMSAVE/ VM(72,9,5)              QMSAVE   5
00306      COMMON /QMSAVE/ TM(72,9,5)              QMSAVE   6
00307      COMMON /QMSAVE/ SHM(72,9,5)            QMSAVE   7
00308      COMMON /QMSAVE/ PHIM(72,9,5)            QMSAVE   8
00309      COMMON /QMSAVE/ PV(72,9,5)              QMSAVE   9
00310      COMMON /QMSAVE/ PIT(72,5)               QMSAVE  10
00311      COMMON /QMSAVE/ CONV(72,9,5), SD(72,9,5)  QMSAVE  11
00312      COMMON /QMSAVE/ TERMW(72,9,5), TERMT(72,9,5) QMSAVE  12
C                                                     SOWORKPK 2
C PRESSURE TO THE KAPPA AND POTENTIAL TEMPERATURE
00313      COMMON PK(9), TH(9)                     SOWORKPK 3
C                                                     SOWORKPK 4
C                                                     SOWORKPK 5
C DEBUG                                           SBEGDEB 36
00314      10000 CONTINUE                        SBEGDEB 2
C ***** CYBER SCALAR VERSION 04.001 INPUT,IQQ   SBEGDEB 2
C ***** CYBER SCALAR VERSION 04.000             SBEGDEB 3
C ***** CYBER SCALAR VERSION 00                 SBEGDEB 4
CS$SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSBEGDEB 5
M = MJ(J)                                         SGEOHT   38
K = JC(J)                                         SGEOHT   39
IF (M.EQ.O) GO TO 50                             SGEOHT   40
C                                                     SGEOHT   41
C .....                                     SGEOHT   42
C *****                                     SGEOHT   43
C ***** COMPUTE GEOPOTENTIAL HEIGHT AT POLES     SGEOHT   44
C ***** COMPUTE GLAS SCHEME FOR PRESSURE--RGAS/CP SGEOHT   45
C ***** COMPUTE PRESSURE GRADIENT TERM           SGEOHT   46
C ***** AND ADJUST FIRST LAYER NORMALIZED        SGEOHT   47
C ***** GEOPOTENTIAL HEIGHT                      SGEOHT   48
C *****                                          SGEOHT   49
C .....                                          SGEOHT   50
C                                                     SGEOHT   51
00318      PHIBAR = PHIS(I,J)                       SGEOHT   52
00319      PK1 = PTOP*EXPBYK(PTOP)                   SGEOHT   53
00320      PKD1 = G.                                  SGEOHT   54
DO 10 L=1,NLAY                                   SGEOHT   55
00321      PL2 = SIGE(L+1)*PP(N,M) + PTOPTOP         SGEOHT   56
00322      PK2 = PL2*EXPBYK(PL2)                    SGEOHT   57
00323      PK(L) = (PK2 - PK1)/(ROCPP1*DSIG(L)*PP(N,M)) SGEOHT   58
00324      TH(L) = TP(L,N,M)/PK(L)                  SGEOHT   59
00325      TERM = PK(L)*RGAS*SIG(L)/(SIG(L)*PP(N,M)+PTOPTOP) SGEOHT   60
00326      TERMW(1,L,K) = TERM*(TH(L) - THSTD)        SGEOHT   61
00327      TERMT(1,L,K) = TERM*TH(L)*PP(N,M)/CP       SGEOHT   62
00328      PHIBAR = PHIBAR + CP*DSIG(L)*TERMT(1,L,K)  SGEOHT   63
00329

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GEOHT 7

SGEOHT	135
SGEOHT	136
SGEOHT	137
SGEOHT	138
SGEOHT	139
SGEOHT	140
SGEOHT	141
SGEOHT	142
SGEOHT	143
SGEOHT	144
SGEOHT	145
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SGEOHT	147
SGEOHT	148
SGEOHT	149
SGEOHT	150
SGEOHT	151
SGEOHT	152
SGEOHT	153
SGEOHT	154

10	335	321	331
10000	314		
30	343	338	
40	349	344	345
50	351	317	
60	371	357	367
80	379	374	
90	380	353	

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

[illegible]

DIST	RCNTRL	REAL	SIMPLE	153															
DLAT	RCNTRL	REAL	SIMPLE	154															
DLOD	RCNTRL	REAL	SIMPLE	155															
DSIG	RDPARM	REAL	ARRAY	239	324	329	360	365											
DT	RCNTRL	REAL	SIMPLE	156															
DXP	RDPARM	REAL	ARRAY	219															
DXYP	RDPARM	REAL	ARRAY	220															
DYP	RDPARM	REAL	ARRAY	221															
ECCN	RCNTRL	REAL	SIMPLE	157															
EFLUX	QANDQT	REAL	ARRAY	255	273														
EPS	RCNTRL	REAL	SIMPLE	183															
EPSFAC	RCNTRL	REAL	SIMPLE	184															
F1DT	RDPARM	REAL	SIMPLE	223															
F2DT	RDPARM	REAL	SIMPLE	224															
FCORLS	RDPARM	REAL	ARRAY	222															
FILTER	RDPARM	LOGICAL	ARRAY	200	203														
FUSION	QANDQT	REAL	ARRAY	256	274														
GEOHT			SUBROUTINE	1															
GNU1	RCNTRL	REAL	SIMPLE	158															
GNU2	RCNTRL	REAL	SIMPLE	159															
GRAV	RCNTRL	REAL	SIMPLE	160															
GT	QANDQT	REAL	ARRAY	245	263														
GW	QANDQT	REAL	ARRAY	246	264														
H1DT	RDPARM	REAL	SIMPLE	225															
H2DT	RDPARM	REAL	SIMPLE	226															
HEATI	RCNTRL	REAL	SIMPLE	182															
HEATW	RCNTRL	REAL	SIMPLE	181															
HFLUX	QANDQT	REAL	ARRAY	254	272														
I		INTEGER	SIMPLE	345/C	346	347	348	353/C	354	358	360	361	362	363					
				364	364	365	373	378											
IC	ICNTRL	INTEGER	ARRAY	90															
IC0	ICNTRL	INTEGER	SIMPLE	25	90	91													
ICLOUD	QANDQT	INTEGER	ARRAY	259	277														
ICNTRL		INTEGER	UNKNOWN	25	26	27	28	29	30	31	32	33	34	35					
				36	37	38	39	40	41	42	43	44	45	46					
				47	48	49	50	51	52	53	54	55	56	57					
				58	59	60	61	62	63	64	65	66	67	68					
				69	70	71	72	73	74	75	76								
ICSP53	ICNTRL	INTEGER	SIMPLE	65															
ICSP55	ICNTRL	INTEGER	SIMPLE	68															
IDIABAT	ICNTRL	INTEGER	UNKNOWN	88															
IDPARM		INTEGER	UNKNOWN	189	190	191	192	193	194	195	196	197	198	199					
IDSP02	IDPARM	INTEGER	SIMPLE	190															
IEFLUX	ICNTRL	INTEGER	UNKNOWN	82															
IFUSION	ICNTRL	INTEGER	UNKNOWN	83															
IHFLUX	ICNTRL	INTEGER	UNKNOWN	81															
IICLOUD	ICNTRL	INTEGER	UNKNOWN	86															
IJUMP	IDPARM	INTEGER	ARRAY	189															
IM	ICNTRL	INTEGER	SIMPLE	26	345	353													
IMD2	ICNTRL	INTEGER	SIMPLE	27															
IMD2P1	ICNTRL	INTEGER	SIMPLE	28															
INDEX	IDPARM	INTEGER	ARRAY	191															
IOmega	ICNTRL	INTEGER	UNKNOWN	87															
IPREACC	ICNTRL	INTEGER	UNKNOWN	79															
IPRECON	ICNTRL	INTEGER	UNKNOWN	80															
IQS	ICNTRL	INTEGER	ARRAY	75	77	78	79	80	81	82	83	84	85	86					
IQU	ICNTRL	INTEGER	ARRAY	76	87	88	89												
IRADLWG	ICNTRL	INTEGER	UNKNOWN	85															
IRADSW	ICNTRL	INTEGER	UNKNOWN	89															
IRADSWG	ICNTRL	INTEGER	UNKNOWN	84															
IROD	IDPARM	INTEGER	SIMPLE	192															
ITAPE	LDPARM	LOGICAL	SIMPLE	201	204														
ITMAX	ICNTRL	INTEGER	UNKNOWN	78															
ITMIN	ICNTRL	INTEGER	UNKNOWN	77															
J		INTEGER	SIMPLE	1	315	316	318	346	354	358	360	361	362	364					
				373	378														
JC	IDPARM	INTEGER	ARRAY	193	316														
JE	IDPARM	INTEGER	ARRAY	194															
JIC	CCNTRL	CHAR*8	SIMPLE	5	18														

JM	ICNTRL	INTEGER	SIMPLE	30															
JMD2	ICNTRL	INTEGER	SIMPLE	31															
JMT2	ICNTRL	INTEGER	SIMPLE	32															
JNP	ICNTRL	INTEGER	SIMPLE	33															
JO4	ICNTRL	INTEGER	SIMPLE	34															
JO8	ICNTRL	INTEGER	SIMPLE	35															
JO8	ICNTRL	CHAR*8	SIMPLE	6	19														
JP	IDPARM	INTEGER	ARRAY	195															
JSP	ICNTRL	INTEGER	SIMPLE	36															
K		INTEGER	SIMPLE	316/S	327	328	329	347	347	348	348	363	364	365					
KLIALB	ICNTRL	INTEGER	SIMPLE	37															
KLIGW	ICNTRL	INTEGER	SIMPLE	38															
KLISST	ICNTRL	INTEGER	SIMPLE	39															
KS	ICNTRL	INTEGER	SIMPLE	40															
KSTEP	IDPARM	INTEGER	SIMPLE	196															
KU	ICNTRL	INTEGER	SIMPLE	41															
L		INTEGER	SIMPLE	321/C	322	324	324	325	325	325	326	326	326	327					
				327	328	328	329	329	331	332	332	332	333	339					
				340	341	341	342	344/C	346	346	347	347	348	348					
				357/C	358	360	360	361	361	361	362	362	362	363					
				363	364	364	365	365	367	368	368	368	369	375					
				376	377	377	378												
LC	LCNTRL	LOGICAL	ARRAY	143	144														
LC0	LCNTRL	LOGICAL	SIMPLE	92	143	144													
LCNTRL		INTEGER	UNKNOWN	92	93	94	95	96	97	98	99	100	101	102					
				103	104														
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	116	141														
LDPARM		INTEGER	UNKNOWN	200	201	202													
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	110	135														
LFUSION	LCNTRL	LOGICAL	UNKNOWN	111	136														
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	109	134														
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	139														
LOG8R	ICNTRL	INTEGER	SIMPLE	42															
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	115	140														
LPI		INTEGER	SIMPLE	340/S	341	341	376/S	377	377										
LPREACC	LCNTRL	LOGICAL	UNKNOWN	107	132														
LPRECON	LCNTRL	LOGICAL	UNKNOWN	108	133														
LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114					
				128															
LQU	LCNTRL	LOGICAL	ARRAY	104	115	116	117	129											
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138														
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	142														
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	112	137														
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131														
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130														
LX		INTEGER	SIMPLE	338/C	339	374/C	375												
M		INTEGER	SIMPLE	315/S	317	322	324	325	326	328	337	342	346						
MATIN	ICNTRL	INTEGER	SIMPLE	43															
MATSNX	ICNTRL	INTEGER	SIMPLE	44															
MATSUN	ICNTRL	INTEGER	SIMPLE	45															
MJ	IDPARM	INTEGER	ARRAY	197	315														
MLF	ICNTRL	INTEGER	ARRAY	46															
MROD	ICNTRL	INTEGER	SIMPLE	47															
MSM	ICNTRL	INTEGER	SIMPLE	49															
N		INTEGER	SIMPLE	1	322	324	325	326	328	337	342	346	346	352					
				358	360	361	362	364	373	378									
NB	ICNTRL	INTEGER	SIMPLE	50															
ND																			
NDALT	ICNTRL	INTEGER	SIMPLE	51															
NDAY	ICNTRL	INTEGER	SIMPLE	52															
NDHOG	ICNTRL	INTEGER	SIMPLE	53															
NDOUT	ICNTRL	INTEGER	SIMPLE	74															
NDPHY	ICNTRL	INTEGER	SIMPLE	54															
NDRSW	ICNTRL	INTEGER	SIMPLE	55															
NDSHF	ICNTRL	INTEGER	SIMPLE	29															
NDT	ICNTRL	INTEGER	SIMPLE	56															
NHMS	ICNTRL	INTEGER	SIMPLE	57															
NHMS0	ICNTRL	INTEGER	SIMPLE	58															
NHMS1	IDPARM	INTEGER	SIMPLE	60															
NHMS2	ICNTRL	INTEGER	SIMPLE	198															
NHMS3	ICNTRL	INTEGER	SIMPLE	59															

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NKRSH	ICNTRL	INTEGER	SIMPLE	48										
NLAY	ICNTRL	INTEGER	SIMPLE	61	321	336	336	337	339	344	352	357	372	372
				373	375									
NLAYM1	ICNTRL	INTEGER	SIMPLE	62	338	374								
NLAYN		INTEGER	SIMPLE	352/S										
NLAYP1	ICNTRL	INTEGER	SIMPLE	63										
NMLEV	ICNTRL	INTEGER	SIMPLE	73										
NSDAY	ICNTRL	INTEGER	SIMPLE	64										
NSEQ	ICNTRL	INTEGER	SIMPLE	65										
NSTEP	ICNTRL	INTEGER	SIMPLE	67										
NYMD	ICNTRL	INTEGER	SIMPLE	69										
NYMD0	ICNTRL	INTEGER	SIMPLE	71										
NYMD1	IDPARM	INTEGER	SIMPLE	199										
NYMDE	ICNTRL	INTEGER	SIMPLE	70										
NZINIT	ICNTRL	INTEGER	SIMPLE	72										
OMEGA	QANDQT	REAL	ARRAY	284	293									
OMEGA2	RCNTRL	REAL	SIMPLE	161										
P	QANDQT	REAL	ARRAY	249	267	358	360	362	364					
PHI	QANDQT	REAL	ARRAY	283	292	346/S	373/S	378/S						
PHIBAR		REAL	SIMPLE	318/S	329/S	329	333/S	333	336	354/S	365/S	365	369/S	369
				372										
PHIL		REAL	SIMPLE	336/S	337	341/S	341	342	372/S	373	377/S	377	378	
PHIM	QMSAVE	REAL	ARRAY	308										
PHIP	QPOLES	REAL	ARRAY	302	337/S	342/S	346							
PHIS	QANDQT	REAL	ARRAY	242	260	318	354							
PI	RCNTRL	REAL	SIMPLE	162										
PI180	RCNTRL	REAL	SIMPLE	163										
PI2	RCNTRL	REAL	SIMPLE	164										
PIMEAN	RCNTRL	REAL	SIMPLE	165										
PIT	QMSAVE	REAL	ARRAY	310										
PK	//	REAL	ARRAY	313	324/S	325	326	332	332	336	341	341	360/S	361
				362	368	368	372	377	377					
PK1		REAL	SIMPLE	319/S	324	330/S	355/S	360	366/S					
PK2		REAL	SIMPLE	323/S	324	330	359/S	360	366					
PKD1		REAL	SIMPLE	320/S	333	334/S	356/S	369	370/S					
PKD2		REAL	SIMPLE	332/S	333	334	336	368/S	369	370	372			
PKSTD	RDPARM	REAL	SIMPLE	227	336	372								
PKTOP	RDPARM	REAL	SIMPLE	228										
PL2		REAL	SIMPLE	322/S	323	323	358/S	359	359					
PLEVS	RCNTRL	REAL	ARRAY	180										
PM	QMSAVE	REAL	ARRAY	303										
PP	QPOLES	REAL	ARRAY	297	322	324	326	328						
PREACC	QANDQT	REAL	ARRAY	252	270									
PRECON	QANDQT	REAL	ARRAY	253	271									
PSMAX	RCNTRL	REAL	SIMPLE	167										
PSMIN	RCNTRL	REAL	SIMPLE	168										
PSTD	RCNTRL	REAL	SIMPLE	165										
PTOP	RCNTRL	REAL	SIMPLE	169	319	319	322	326	355	355	358	362		
PV	QMSAVE	REAL	ARRAY	309										
PZERO	RCNTRL	REAL	SIMPLE	186										
QALT	LCNTRL	LOGICAL	SIMPLE	93	118									
QANDQT		REAL	UNKNOWN	241	278									
QBEG	LCNTRL	LOGICAL	SIMPLE	94	119									
QDAY	LCNTRL	LOGICAL	SIMPLE	95	120									
QEND	LCNTRL	LOGICAL	SIMPLE	96	121									
QMSAVE		REAL	UNKNOWN	303	304	305	306	307	308	309	310	311	312	
QOUT	LCNTRL	LOGICAL	SIMPLE	97	122									
QPHY	LCNTRL	LOGICAL	SIMPLE	98	123									
QPOLES		REAL	UNKNOWN	297	298	299	300	301	302					
QRSH	LCNTRL	LOGICAL	SIMPLE	102	127									
QRSW	LCNTRL	LOGICAL	SIMPLE	101	126									
QS	QANDQT	REAL	ARRAY	241	260	261	262	263	264	265	266	267	268	269
				270	271	272	273	274	275	276	277			
QSHF	LCNTRL	LOGICAL	SIMPLE	99	124									
QU	QANDQT	REAL	ARRAY	278	288	289	290	291	292	293	294	295	296	
RADE	RCNTRL	REAL	SIMPLE	170										
RADLW	QANDQT	REAL	ARRAY	287	296									
RADLWG	QANDQT	REAL	ARRAY	258	276									
RADSW	QANDQT	REAL	ARRAY	286	295									
RADSWG	QANDQT	REAL	ARRAY	257	275									

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GEOHT 11

RC	RCNTRL	REAL	ARRAY	187	188														
RCO	RCNTRL	REAL	SIMPLE	145	145	188													
RCNTRL	RCNTRL	REAL	UNKNOWN	145	146	147	148	149	150	151	152	153	154	155					
				156	157	158	159	160	161	162	163	164	165	166					
				167	168	169	170	171	172	173	174	175	176	177					
				178	179	180	181	182	183	184	185	186							
RDPARM		REAL	UNKNOWN	206	207	208	209	210	211	212	213	214	215	216					
				217	218	219	220	221	222	223	224	225	226	227					
				228	229	230	231	232	233	234	235	236	237	238					
				239	240														
RGAS	RCNTRL	REAL	SIMPLE	171	326	362													
RLAT	RDPARM	REAL	ARRAY	229															
RLATD	RDPARM	REAL	ARRAY	230															
ROCP	RCNTRL	REAL	SIMPLE	172															
ROCPDT	RDPARM	REAL	SIMPLE	231															
ROCPF1	RDPARM	REAL	SIMPLE	232	324	360													
RSOIST	RCNTRL	REAL	SIMPLE	173															
SD	QMSAVE	REAL	ARRAY	311															
SDAY	RCNTRL	REAL	SIMPLE	174															
SEASON	RCNTRL	REAL	SIMPLE	175															
SGNP	RDPARM	REAL	ARRAY	233															
SH	QANDQT	REAL	ARRAY	282	291														
SHM	QMSAVE	REAL	ARRAY	307															
SHP	QPOLES	REAL	ARRAY	301															
SHS	QANDQT	REAL	ARRAY	248	266														
SIG	RDPARM	REAL	ARRAY	240	326	326	362	362											
SIGE	RCNTRL	REAL	ARRAY	176	322	332	358	368											
SIND	RCNTRL	REAL	SIMPLE	177															
SINL	RDPARM	REAL	ARRAY	234															
SINLON	RDPARM	REAL	ARRAY	235															
SMTH	QANDQT	REAL	ARRAY	243	261														
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125														
SOLS	RCNTRL	REAL	SIMPLE	178															
START	LDPARM	LOGICAL	SIMPLE	202	205														
T	QANDQT	REAL	ARRAY	281	290	361													
TERM		REAL	SIMPLE	326/S	327	328	362/S	363	364										
TERMT	QMSAVE	REAL	ARRAY	312	328/S	329	348/S	348	364/S	365									
TERMW	QMSAVE	REAL	ARRAY	312	327/S	347/S	347	363/S											
TH	//	REAL	ARRAY	313	325/S	327	328	333	336	341	341	361/S	363	364					
				369	372	377	377												
THSTD	RDPARM	REAL	SIMPLE	236	327	363													
THSTD2	RDPARM	REAL	SIMPLE	237	336	341	372	377											
TM	QMSAVE	REAL	ARRAY	306															
TMAX	QANDQT	REAL	ARRAY	251	269														
TMIN	QANDQT	REAL	ARRAY	250	268														
TP	QPOLES	REAL	ARRAY	300	325														
TS	QANDQT	REAL	ARRAY	247	265														
TSTD	RCNTRL	REAL	SIMPLE	179															
U	QANDQT	REAL	ARRAY	279	288														
UM	QMSAVE	REAL	ARRAY	304															
UP	QPOLES	REAL	ARRAY	298															
V	QANDQT	REAL	ARRAY	280	289														
VER	CCNTRL	CHAR*8	SIMPLE	10	23														
VM	QMSAVE	REAL	ARRAY	305															
VP	QPOLES	REAL	ARRAY	298															
WSAVE	RDPARM	REAL	ARRAY	238															
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24														

PROCEDURE MAP

--NAME-----TYPE-----CLASS-----REFERENCES D=STMT FN DEF, A=ARGLIST

EXPBYK	REAL	FUNCTION	319	323	355	359
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00001

FUNCTION INCHMS (NHMS, NSEC)

PURPOSE

DOES HOUR-MINUTE-SECOND ARITHMETIC.
CALLED BY MAIN (GWSGCM) ONLY

USAGE

ARGUMENTS

NHMS	CURRENT TIME IN HHMMSS FORMAT
NSEC	INCREMENT TIME IN SECONDS
INCHMS	CURRENT TIME PLUS INCREMENT TIME IN HHMMSS FORMAT
MHMS	INCREMENT TIME IN HHMMSS FORMAT
MODHMS	TIME SINCE LAST INCREMENT TIME OCCURRED IN SECONDS

SUBPROGRAMS NEEDED

NAME	DESCRIPTION
NONE	

RECORD OF MODIFICATIONS

BASED ON OLD VERSION 8.

?DATE?	?PROGRAMMER?	?DESCRIPTION OF MODIFICATIONS?
05/19/83	RAMESH	THIS PART AND COMMENTS

REMARKS:

(1)	NOTE ENTRY POINT MODHMS.
(2)	?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.?

00002

00003

00004

00005

00006

00007

00008

00009

00010

00011

M / A - C D M S I G M A D A T A I N C . N A S A - G S F C

NSECF(N) = N/10000*3600 + MOD(N,10000)/100*60 + MOD(N,100)

NHMSF(N) = N/3600*10000 + MOD(N,3600)/60*100 + MOD(N,60)

INCHMS = NHMSF(NSECF(NHMS)*NSEC)

RETURN

ENTRY MODHMS (NHMS, MHMS)

MSEC = NSECF(NHMS)

IF (MHMS.GT.0) MSEC = MOD(MSEC,NSECF(MHMS))

MODHMS = MSEC

RETURN

END

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

INCHMS	INTEGER	FUNCTION	1	4/S						
MHMS	INTEGER	SIMPLE	6	8	8					
MODHMS	INTEGER	FUNCTION	6	9/S						
MSEC	INTEGER	SIMPLE	7/S	8/S	8	9				
N	INTEGER	SIMPLE	2	2	2	2	3	3	3	3
NHMS	INTEGER	SIMPLE	1	4	6	7				
NSEC	INTEGER	SIMPLE	1	4						

PROCEDURE MAP

--NAME-----TYPE-----CLASS-----REFERENCES D=STMT FN DEF, A=ARGLIST

MOD	INTEGER	INTRINSIC	2	2	3	3	8
NHMSF	INTEGER	STAT FUNC	3/S	4			
NSECF	INTEGER	STAT FUNC	2/S	4	7	8	

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INCHMS 1

```

00001      FUNCTION INCYMD (NYMD)                                SINCYMD  2
C-----
C PURPOSE                                                    SINCYMD  3
C INCREMENTS THE YEAR-MONTH-DAY BY ONE DAY                  SINCYMD  4
C OR COMPUTES NUMBER OF DAYS IN THE YEAR (JULIAN DAY)       SINCYMD  5
C CALLED BY ONLY                                            SINCYMD  6
C                                                           SINCYMD  7
C USAGE                                                    SINCYMD  8
C                                                           SINCYMD  9
C ARGUMENTS  DESCRIPTION                                     SINCYMD 10
C   NYMD     CURRENT DATE IN YYMMDD FORMAT                 SINCYMD 11
C   INCYMD    CURRENT DATE PLUS ONE DAY IN YYMMDD FORMAT   SINCYMD 12
C   MODYMD    CURRENT JULIAN DAY                           SINCYMD 13
C                                                           SINCYMD 14
C SUBPROGRAMS NEEDED                                       SINCYMD 15
C   NAME      DESCRIPTION                                   SINCYMD 16
C   NONE                                           SINCYMD 17
C                                                           SINCYMD 18
C RECORD OF MODIFICATIONS                                   SINCYMD 19
C   BASED ON OLD VERSION 8.                               SINCYMD 20
C                                                           SINCYMD 21
C   ?DATE?    ?PROGRAMMER?  ?DESCRIPTION OF MODIFICATIONS? SINCYMD 22
C   05/04/83   RAMESH        THIS PART AND COMMENTS       SINCYMD 23
C                                                           SINCYMD 24
C REMARKS:                                                SINCYMD 25
C   ( 1) ENTRY  MODYMD                                     SINCYMD 26
C   ( 2) ?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.? SINCYMD 27
C-----
C M / A - C O M S I G M A   D A T A   I N C .   N A S A   -   G S F C SINCYMD 30
C-----
00002      INTEGER NDPM(12)/31,28,31,30,31,30,31,31,30,31,30,31/ SINCYMD 31
00003      LOGICAL LEAP                                         SINCYMD 32
00004      DATA NY00/1900/                                     SINCYMD 33
00005      LEAP(NY) = MOD(NY,4).EQ.0 .AND. (NY.NE.0 .OR. MOD(NY00,400).EQ.0) SINCYMD 34
C                                                           SINCYMD 35
00006      NY = NYMD/10000                                     SINCYMD 36
00007      NM = MOD(NYMD,10000)/100                             SINCYMD 37
00008      ND = MOD(NYMD,100)                                   SINCYMD 38
C                                                           SINCYMD 39
00009      ND = ND + 1                                         SINCYMD 40
00010      IF (ND.LE.NDPM(NM)) GO TO 20                       SINCYMD 41
00011      IF (ND.EQ.29 .AND. NM.EQ.2 .AND. LEAP(NY)) GO TO 20 SINCYMD 42
00012      ND = 1                                              SINCYMD 43
00013      NM = NM + 1                                         SINCYMD 44
00014      IF (NM.LE.12) GO TO 20                             SINCYMD 45
00015      NM = 1                                              SINCYMD 46
00016      NY = NY + 1                                         SINCYMD 47
C                                                           SINCYMD 48
00017      20 CONTINUE                                         SINCYMD 49
00018      INCYMD = NY*10000 + NM*100 + ND                     SINCYMD 50
00019      RETURN                                              SINCYMD 51
C                                                           SINCYMD 52
00020      ENTRY MODYMD (NYMD)                                 SINCYMD 53
00021      NY = NYMD/10000                                     SINCYMD 54
00022      NM = MOD(NYMD,10000)/100                             SINCYMD 55
00023      ND = MOD(NYMD,100)                                   SINCYMD 56
C                                                           SINCYMD 57
00024      40 CONTINUE                                         SINCYMD 58
00025      IF (NM.LE.1) GO TO 60                               SINCYMD 59
00026      NM = NM - 1                                         SINCYMD 60
00027      ND = ND + NDPM(NM)                                   SINCYMD 61
00028      IF (NM.EQ.2 .AND. LEAP(NY)) ND = ND + 1           SINCYMD 62
00029      GO TO 40                                            SINCYMD 63
C                                                           SINCYMD 64
00030      60 CONTINUE                                         SINCYMD 65
00031      MODYMD = ND                                          SINCYMD 66
00032      RETURN                                              SINCYMD 67
00033      END                                                  SINCYMD 68

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STATEMENT LABEL MAP

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INCYMD 1

--LABEL---DEFINED---REFERENCES

20	17	10	11	14
40	24	29		
60	30	25		

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

INCYMD		INTEGER	FUNCTION	1	18/S									
MODYMD		INTEGER	FUNCTION	20	31/S									
ND		INTEGER	SIMPLE	8/S	9/S	9	10	11	12/S	18	23/S	27/S	27	28
				28	31									
NDPM		INTEGER	ARRAY	2	10	27								
NM		INTEGER	SIMPLE	7/S	10	11	13/S	13	14	15/S	18	22/S	25	26
				26	27	28								
NY		INTEGER	SIMPLE	5	5	5	6/S	11	16/S	16	18	21/S	28	
NY00		INTEGER	SIMPLE	4/1	5									
NYMD		INTEGER	SIMPLE	1	6	7	8	20	21	22	23			

PROCEDURE MAP

--NAME-----TYPE-----CLASS-----REFERENCES

D=STMT FN DEF, A=ARGLIST

LEAP	LOGICAL	STAT FUNC	3	5/S	11	28			
MOD	INTEGER	INTRINSIC	5	5	7	8	22	23	

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00001

SUBROUTINE INITSD

PURPOSE

INITIALIZE MODEL GLOBAL DIAGNOSTIC ARRAYS.
CALLED BY MAIN (GWSGCM) ONLY

USAGE

ARGUMENTS DESCRIPTION
NONE

DIAGNOSTIC DESCRIPTION

1 MINIMUM DAILY SURFACE TEMPERATURE
2 MAXIMUM DAILY SURFACE TEMPERATURE
3 TOTAL ACCUMULATED PRECIPITATION
4 CONVECTIVE PRECIPITATION
5 SENSIBLE HEAT FLUX
6 EVAPORATIVE FLUX
7-15 SOLAR RADIATION (9 SIGMA LEVELS)
16 SOLAR RADIATION AT GROUND
17-25 DIABATIC HEATING (9 SIGMA LEVELS)
26-34 VERTICAL VELOCITY (9 SIGMA LEVELS)
35 HEAT STORAGE IN FREEZING AT GROUND
36-44 LONG WAVE RADIATION (9 SIGMA LEVELS)
45 LONG WAVE RADIATION AT GROUND
46 CLOUD FLAGS
47-50 SPARE

SUBPROGRAMS NEEDED

NAME DESCRIPTION
NONE

RECORD OF MODIFICATIONS
BASED ON OLD VERSION 8.

?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS?
05/19/83 RAMESH THIS PART AND COMMENTS

REMARKS:

(1) ?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.?

M / A - C O M S I G M A D A T A I N C . N A S A - G S F C

CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD

=====

COMMON /CCNTRL/ CC0
COMMON /CCNTRL/ ADAT
COMMON /CCNTRL/ ATIME
COMMON /CCNTRL/ JIC
COMMON /CCNTRL/ JOB
COMMON /CCNTRL/ CCSP06
COMMON /CCNTRL/ CCSP07
COMMON /CCNTRL/ CCSP08
COMMON /CCNTRL/ VER
COMMON /CCNTRL/ XLABEL (10)
COMMON /CCNTRL/ CQS (30)
COMMON /CCNTRL/ CQU (10)

EQUIVALENCE (CC0,CC(1))
CHARACTER*8 CC0, CC(200)
CHARACTER*8 ADAT
CHARACTER*8 ATIME
CHARACTER*8 JIC
CHARACTER*8 JOB
CHARACTER*8 CCSP06
CHARACTER*8 CCSP07
CHARACTER*8 CCSP08
CHARACTER*8 VER
CHARACTER*8 XLABEL

SINITSD 2
SINITSD 3
SINITSD 4
SINITSD 5
SINITSD 6
SINITSD 7
SINITSD 8
SINITSD 9
SINITSD 10
SINITSD 11
SINITSD 12
SINITSD 13
SINITSD 14
SINITSD 15
SINITSD 16
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SINITSD 41
SINITSD 42
SINITSD 43
SINITSD 44
SINITSD 45
SCNTRL 2
SCNTRL 3
SCNTRL 4
SCNTRL 5
SCNTRL 6
SCNTRL 7
SCNTRL 8
SCNTRL 9
SCNTRL 10
SCNTRL 11
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SCNTRL 25
SCNTRL 26
SCNTRL 27
SCNTRL 28

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INITSD 1

00090	EQUIVALENCE	(IC0,IC(1))	SCNTRL	100
00091	INTEGER	IC0, IC(200)	SCNTRL	101
	C		SCNTRL	102
	C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL	103
	C	=====	SCNTRL	104
00092	COMMON	/LCNTRL/ LCO	SCNTRL	105
00093	COMMON	/LCNTRL/ QALT	SCNTRL	106
00094	COMMON	/LCNTRL/ QBEG	SCNTRL	107
00095	COMMON	/LCNTRL/ QDAY	SCNTRL	108
00096	COMMON	/LCNTRL/ QEND	SCNTRL	109
00097	COMMON	/LCNTRL/ QOUT	SCNTRL	110
00098	COMMON	/LCNTRL/ QPHY	SCNTRL	111
00099	COMMON	/LCNTRL/ QSHF	SCNTRL	112
00100	COMMON	/LCNTRL/ SN2FLG	SCNTRL	113
00101	COMMON	/LCNTRL/ QRSW	SCNTRL	114
00102	COMMON	/LCNTRL/ QRSW	SCNTRL	115
00103	COMMON	/LCNTRL/ LQS(30)	SCNTRL	116
00104	COMMON	/LCNTRL/ LQU(10)	SCNTRL	117
	C		SCNTRL	118
00105	EQUIVALENCE	(LTMIN .LQS(1))	SCNTRL	119
00106	EQUIVALENCE	(LTMAX .LQS(2))	SCNTRL	120
00107	EQUIVALENCE	(LPREACC .LQS(3))	SCNTRL	121
00108	EQUIVALENCE	(LPRECON .LQS(4))	SCNTRL	122
00109	EQUIVALENCE	(LHFLUX .LQS(5))	SCNTRL	123
00110	EQUIVALENCE	(LEFLUX .LQS(6))	SCNTRL	124
00111	EQUIVALENCE	(LFUSION .LQS(7))	SCNTRL	125
00112	EQUIVALENCE	(LRADSWG .LQS(8))	SCNTRL	126
00113	EQUIVALENCE	(LRADLWG .LQS(9))	SCNTRL	127
00114	EQUIVALENCE	(LICLOUD .LQS(10))	SCNTRL	128
	C		SCNTRL	129
00115	EQUIVALENCE	(LOMEGA .LQU(1))	SCNTRL	130
00116	EQUIVALENCE	(LDIABAT .LQU(2))	SCNTRL	131
00117	EQUIVALENCE	(LRADSW .LQU(3))	SCNTRL	132
	C		SCNTRL	133
00118	LOGICAL	QALT	SCNTRL	134
00119	LOGICAL	QBEG	SCNTRL	135
00120	LOGICAL	QDAY	SCNTRL	136
00121	LOGICAL	QEND	SCNTRL	137
00122	LOGICAL	QOUT	SCNTRL	138
00123	LOGICAL	QPHY	SCNTRL	139
00124	LOGICAL	QSHF	SCNTRL	140
00125	LOGICAL	SN2FLG	SCNTRL	141
00126	LOGICAL	QRSW	SCNTRL	142
00127	LOGICAL	QRSW	SCNTRL	143
	C		SCNTRL	144
00128	LOGICAL	LQS	SCNTRL	145
00129	LOGICAL	LQU	SCNTRL	146
00130	LOGICAL	LTMIN	SCNTRL	147
00131	LOGICAL	LTMAX	SCNTRL	148
00132	LOGICAL	LPREACC	SCNTRL	149
00133	LOGICAL	LPRECON	SCNTRL	150
00134	LOGICAL	LHFLUX	SCNTRL	151
00135	LOGICAL	LEFLUX	SCNTRL	152
00136	LOGICAL	LFUSION	SCNTRL	153
00137	LOGICAL	LRADSWG	SCNTRL	154
00138	LOGICAL	LRADLWG	SCNTRL	155
00139	LOGICAL	LICLOUD	SCNTRL	156
	C		SCNTRL	157
00140	LOGICAL	LOMEGA	SCNTRL	158
00141	LOGICAL	LDIABAT	SCNTRL	159
00142	LOGICAL	LRADSW	SCNTRL	160
	C		SCNTRL	161
00143	EQUIVALENCE	(LC0,LC(1))	SCNTRL	162
00144	LOGICAL	LC0, LC(200)	SCNTRL	163
	C		SCNTRL	164
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL	165
	C	=====	SCNTRL	166
00145	COMMON	/RCNTRL/ RCO	SCNTRL	167
00146	COMMON	/RCNTRL/ APHEL	SCNTRL	168
00147	COMMON	/RCNTRL/ BETA	SCNTRL	169
00148	COMMON	/RCNTRL/ COSD	SCNTRL	170

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00149	COMMON /RCNTRL/ CP	SCNTRL 171
00150	COMMON /RCNTRL/ DAYSPY	SCNTRL 172
00151	COMMON /RCNTRL/ DEC	SCNTRL 173
00152	COMMON /RCNTRL/ DECMAX	SCNTRL 174
00153	COMMON /RCNTRL/ DIST	SCNTRL 175
00154	COMMON /RCNTRL/ DLAT	SCNTRL 176
00155	COMMON /RCNTRL/ DLON	SCNTRL 177
00156	COMMON /RCNTRL/ DT	SCNTRL 178
00157	COMMON /RCNTRL/ ECCN	SCNTRL 179
00158	COMMON /RCNTRL/ GNU1	SCNTRL 180
00159	COMMON /RCNTRL/ GNU2	SCNTRL 181
00160	COMMON /RCNTRL/ GRAV	SCNTRL 182
00161	COMMON /RCNTRL/ OMEGA2	SCNTRL 183
00162	COMMON /RCNTRL/ PI	SCNTRL 184
00163	COMMON /RCNTRL/ PI180	SCNTRL 185
00164	COMMON /RCNTRL/ PI2	SCNTRL 186
00165	COMMON /RCNTRL/ PSTD	SCNTRL 187
00166	COMMON /RCNTRL/ PIMEAN	SCNTRL 188
00167	COMMON /RCNTRL/ PSMAX	SCNTRL 189
00168	COMMON /RCNTRL/ PSMIN	SCNTRL 190
00169	COMMON /RCNTRL/ PTOP	SCNTRL 191
00170	COMMON /RCNTRL/ RADE	SCNTRL 192
00171	COMMON /RCNTRL/ RGAS	SCNTRL 193
00172	COMMON /RCNTRL/ ROCP	SCNTRL 194
00173	COMMON /RCNTRL/ RSDIST	SCNTRL 195
00174	COMMON /RCNTRL/ SDAY	SCNTRL 196
00175	COMMON /RCNTRL/ SEASON	SCNTRL 197
00176	COMMON /RCNTRL/ SIGE (25)	SCNTRL 198
00177	COMMON /RCNTRL/ SIND	SCNTRL 199
00178	COMMON /RCNTRL/ SOLS	SCNTRL 200
00179	COMMON /RCNTRL/ TSTD	SCNTRL 201
00180	COMMON /RCNTRL/ PLEVS (25)	SCNTRL 202
00181	COMMON /RCNTRL/ HEATW	SCNTRL 203
00182	COMMON /RCNTRL/ HEATI	SCNTRL 204
00183	COMMON /RCNTRL/ EPS	SCNTRL 205
00184	COMMON /RCNTRL/ EPSFAC	SCNTRL 206
00185	COMMON /RCNTRL/ CALTOJ	SCNTRL 207
00186	COMMON /RCNTRL/ PZERO	SCNTRL 208
00187	C EQUIVALENCE (RC0, RC(1))	SCNTRL 209
00188	C REAL RC0, RC(200)	SCNTRL 210
	C	SCNTRL 211
	C INTEGER MODEL CONSTANTS	SCNTRL 212
	C =====	SCNTRL 213
00189	COMMON /IDPARM/ IJUMP (46)	SCNTRL 214
00190	COMMON /IDPARM/ IDSP02	SCNTRL 215
00191	COMMON /IDPARM/ INDEX (72)	SCNTRL 216
00192	COMMON /IDPARM/ IROD	SCNTRL 217
00193	COMMON /IDPARM/ JC (46)	SCNTRL 218
00194	COMMON /IDPARM/ JE (2)	SCNTRL 219
00195	COMMON /IDPARM/ JP (2,2)	SCNTRL 220
00196	COMMON /IDPARM/ KSTEP	SCNTRL 221
00197	COMMON /IDPARM/ MJ (46)	SCNTRL 222
00198	COMMON /IDPARM/ NHMS1	SCNTRL 223
00199	COMMON /IDPARM/ NYMD1	SCNTRL 224
	C	SCNTRL 225
	C LOGICAL MODEL CONSTANTS	SCNTRL 226
	C =====	SCNTRL 227
00200	COMMON /LDPARM/ FILTER (46)	SCNTRL 228
00201	COMMON /LDPARM/ ITAPE	SCNTRL 229
00202	COMMON /LDPARM/ START	SCNTRL 230
	C	SCNTRL 231
00203	LOGICAL FILTER	SCNTRL 232
00204	LOGICAL ITAPE	SCNTRL 233
00205	LOGICAL START	SCNTRL 234
	C	SCNTRL 235
	C REAL MODEL CONSTANTS	SCNTRL 236
	C =====	SCNTRL 237
00206	COMMON /RDPARM/ ADLDP	SCNTRL 238
00207	COMMON /RDPARM/ CON1	SCNTRL 239
00208	COMMON /RDPARM/ CON1DT	SCNTRL 240
		SCNTRL 241

00209 COMMON /RDPARM/ CON2
 00210 COMMON /RDPARM/ CON2DT
 00211 COMMON /RDPARM/ CON3
 00212 COMMON /RDPARM/ CON3DT
 00213 COMMON /RDPARM/ CON4
 00214 COMMON /RDPARM/ CON4DT
 00215 COMMON /RDPARM/ CON5
 00216 COMMON /RDPARM/ COSL (46)
 00217 COMMON /RDPARM/ COSLON (72)
 00218 COMMON /RDPARM/ CPD2
 00219 COMMON /RDPARM/ DXP (46)
 00220 COMMON /RDPARM/ DXYP (46)
 00221 COMMON /RDPARM/ DYP (46)
 00222 COMMON /RDPARM/ FCORLS (46)
 00223 COMMON /RDPARM/ F1DT
 00224 COMMON /RDPARM/ F2DT
 00225 COMMON /RDPARM/ H1DT
 00226 COMMON /RDPARM/ H2DT
 00227 COMMON /RDPARM/ PKSTD
 00228 COMMON /RDPARM/ PKTOP
 00229 COMMON /RDPARM/ RLAT (46)
 00230 COMMON /RDPARM/ RLATD (46)
 00231 COMMON /RDPARM/ ROCPDT
 00232 COMMON /RDPARM/ ROCPPI
 00233 COMMON /RDPARM/ SGNP (2)
 00234 COMMON /RDPARM/ SINL (46)
 00235 COMMON /RDPARM/ SINLON (72)
 00236 COMMON /RDPARM/ THSTD
 00237 COMMON /RDPARM/ THSTD2
 00238 COMMON /RDPARM/ WSAVE (159)
 00239 COMMON /RDPARM/ DSIG (9)
 00240 COMMON /RDPARM/ SIG (9)

C
 C * * *
 C GLOBAL MODEL SURFACE FIELDS
 C COMMON /QANDQT/ QS(72,19,46)

00242 DIMENSION PHIS(1368,1)
 00243 DIMENSION SMTH(1368,23)
 00244 DIMENSION ALBEDO(1368,1)
 00245 DIMENSION GT(1368,1)
 00246 DIMENSION GW(1368,1)
 00247 DIMENSION TS(1368,1)
 00248 DIMENSION SHS(1368,1)
 00249 DIMENSION P(72,19,1)
 00250 DIMENSION TMIN(1368,1)
 00251 DIMENSION TMAX(1368,1)
 00252 DIMENSION PREACC(1368,1)
 00253 DIMENSION PRECON(1368,1)
 00254 DIMENSION HFLUX(1368,1)
 00255 DIMENSION EFLUX(1368,1)
 00256 DIMENSION FUSION(1368,1)
 00257 DIMENSION RADSWG(1368,1)
 00258 DIMENSION RADLWG(1368,1)
 00259 DIMENSION ICLOUD(1368,1)

C
 00260 EQUIVALENCE (QS(1,1,1),PHIS(1,1))
 00261 EQUIVALENCE (QS(1,2,1),SMTH(1,1))
 00262 EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))
 00263 EQUIVALENCE (QS(1,4,1),GT(1,1))
 00264 EQUIVALENCE (QS(1,5,1),GW(1,1))
 00265 EQUIVALENCE (QS(1,6,1),TS(1,1))
 00266 EQUIVALENCE (QS(1,7,1),SHS(1,1))
 00267 EQUIVALENCE (QS(1,8,1),P(1,1,1))
 00268 EQUIVALENCE (QS(1,10,1),TMIN(1,1))
 00269 EQUIVALENCE (QS(1,11,1),TMAX(1,1))
 00270 EQUIVALENCE (QS(1,12,1),PREACC(1,1))
 00271 EQUIVALENCE (QS(1,13,1),PRECON(1,1))
 00272 EQUIVALENCE (QS(1,14,1),HFLUX(1,1))
 00273 EQUIVALENCE (QS(1,15,1),EFLUX(1,1))
 00274 EQUIVALENCE (QS(1,16,1),FUSION(1,1))

SCNTRL 242
 SCNTRL 243
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00275      EQUIVALENCE      (QS(1,17,1),RADSWG(1,1))
00276      EQUIVALENCE      (QS(1,18,1),RADLWG(1,1))
00277      EQUIVALENCE      (QS(1,19,1),ICLOUD(1,1))
C * * *
C GLOBAL MODEL UPPER-AIR FIELDS
00278      COMMON /QANDQT/ QU(72,9,14,46)
C
00279      DIMENSION          U(72,9,14,1)
00280      DIMENSION          V(72,9,14,1)
00281      DIMENSION          T(72,9,14,1)
00282      DIMENSION          SH(72,9,14,1)
00283      DIMENSION          PHI(72,9,14,1)
00284      DIMENSION          OMEGA(72,126,1)
00285      DIMENSION          DIABAT(72,126,1)
00286      DIMENSION          RADSWG(72,126,1)
00287      DIMENSION          RADLW(72,126,1)
C
00288      EQUIVALENCE        (QU(1,1,1,1),U(1,1,1,1))
00289      EQUIVALENCE        (QU(1,1,3,1),V(1,1,1,1))
00290      EQUIVALENCE        (QU(1,1,5,1),T(1,1,1,1))
00291      EQUIVALENCE        (QU(1,1,7,1),SH(1,1,1,1))
00292      EQUIVALENCE        (QU(1,1,9,1),PHI(1,1,1,1))
00293      EQUIVALENCE        (QU(1,1,11,1),OMEGA(1,1,1))
00294      EQUIVALENCE        (QU(1,1,12,1),DIABAT(1,1,1))
00295      EQUIVALENCE        (QU(1,1,13,1),RADSWG(1,1,1))
00296      EQUIVALENCE        (QU(1,1,14,1),RADLW(1,1,1))
C * * *
C DEBUG
00297      10000 CONTINUE
C      **** CYBER SCALAR VERSION 04.001 INPUT,10Q
C      **** CYBER SCALAR VERSION 04.000
C      **** CYBER SCALAR VERSION 00
C*****
00298      DO 20 J=1,JNP
00299      DO 20 I=1,IM
00300      IF (QDAY) TMIN(I,J) = 1.E6
00301      IF (QDAY) TMAX(I,J) = 0.
00302      PREACC(I,J) = 0.
00303      PRECON(I,J) = 0.
00304      HFLUX(I,J) = 0.
00305      EFLUX(I,J) = 0.
00306      FUSION(I,J) = 0.
00307      ICLOUD(I,J) = 0.
00308      RADSWG(I,J) = 0.
00309      DO 10 L=1,NLAY
00310      RADSW(I,L,J) = 0.
00311      DIABAT(I,L,J) = 0.
00312      OMEGA(I,L,J) = 0.
00313      10 CONTINUE
00314      20 CONTINUE
00315      RETURN
00316      END

```

STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10	313	309	
10000	297		
20	314	298	299

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

ADATE	CCNTRL	CHAR*8	SIMPLE	3	16
ADLDP	RDPARM	REAL	SIMPLE	206	
ALBEDO	QANDQT	REAL	ARRAY	244	262
APHEL	RCNTRL	REAL	SIMPLE	146	
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17
BETA	RCNTRL	REAL	SIMPLE	147	
CALTOJ	RCNTRL	REAL	SIMPLE	185	

CC	CCNTRL	CHAR*8	ARRAY	14	15	15	5	6	7	8	9	10	11	12
CC0	CCNTRL	CHAR*8	SIMPLE	2	14	4								
CCNTRL		REAL	UNKNOWN	2	3									
CCSP06	CCNTRL	CHAR*8	SIMPLE	13	7									
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	20									
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	21									
CON1	RDPARM	REAL	SIMPLE	207	22									
CON1DT	RDPARM	REAL	SIMPLE	208										
CON2	RDPARM	REAL	SIMPLE	209										
CON2DT	RDPARM	REAL	SIMPLE	210										
CON3	RDPARM	REAL	SIMPLE	211										
CON3DT	RDPARM	REAL	SIMPLE	212										
CON4	RDPARM	REAL	SIMPLE	213										
CON4DT	RDPARM	REAL	SIMPLE	214										
CON5	RDPARM	REAL	SIMPLE	215										
COSD	RCNTRL	REAL	SIMPLE	148										
COSL	RDPARM	REAL	ARRAY	216										
COSLON	RDPARM	REAL	ARRAY	217										
CP	RCNTRL	REAL	SIMPLE	149										
CPD2	RDPARM	REAL	SIMPLE	218										
CQS	CCNTRL	REAL	ARRAY	12										
CQU	CCNTRL	REAL	ARRAY	13										
DAYSPLY	RCNTRL	REAL	SIMPLE	150										
DEC	RCNTRL	REAL	SIMPLE	151										
DECMAX	RCNTRL	REAL	SIMPLE	152										
DIABAT	QANDQT	REAL	ARRAY	285	294	311/S								
DIST	RCNTRL	REAL	SIMPLE	153										
DLAT	RCNTRL	REAL	SIMPLE	154										
DLOW	RCNTRL	REAL	SIMPLE	155										
DSIG	RDPARM	REAL	ARRAY	239										
DT	RCNTRL	REAL	SIMPLE	156										
DXP	RDPARM	REAL	ARRAY	219										
DXYP	RDPARM	REAL	ARRAY	220										
DYP	RDPARM	REAL	ARRAY	221										
ECCN	RCNTRL	REAL	SIMPLE	157										
EFLUX	QANDQT	REAL	ARRAY	255	273	305/S								
EPS	RCNTRL	REAL	SIMPLE	183										
EPSFAC	RCNTRL	REAL	SIMPLE	184										
F1DT	RDPARM	REAL	SIMPLE	223										
F2DT	RDPARM	REAL	SIMPLE	224										
FCORLS	RDPARM	REAL	ARRAY	222										
FILTER	LDARM	LOGICAL	ARRAY	200	203									
FUSION	QANDQT	REAL	ARRAY	256	274	306/S								
GNU1	RCNTRL	REAL	SIMPLE	158										
GNU2	RCNTRL	REAL	SIMPLE	159										
GRAV	RCNTRL	REAL	SIMPLE	160										
GT	QANDQT	REAL	ARRAY	245	263									
GW	QANDQT	REAL	ARRAY	246	264									
H1DT	RDPARM	REAL	SIMPLE	225										
H2DT	RDPARM	REAL	SIMPLE	226										
HEAT1	RCNTRL	REAL	SIMPLE	182										
HEATW	RCNTRL	REAL	SIMPLE	181										
HFLUX	QANDQT	REAL	ARRAY	254	272	304/S								
I		INTEGER	SIMPLE	299/C	300	301	302	303	304	305	306	307	308	310
IC	ICNTRL	INTEGER	ARRAY	90	91									
ICD	ICNTRL	INTEGER	SIMPLE	25	90	91								
ICLOUD	QANDQT	INTEGER	ARRAY	259	277	307/S								
ICNTRL		INTEGER	UNKNOWN	25	26	27	28	29	30	31	32	33	34	35
				36	37	38	39	40	41	42	43	44	45	46
				47	48	49	50	51	52	53	54	55	56	57
				58	59	60	61	62	63	64	65	66	67	68
				69	70	71	72	73	74	75	76			
ICSP53	ICNTRL	INTEGER	SIMPLE	66										
ICSP55	ICNTRL	INTEGER	SIMPLE	68										
IDABAT	ICNTRL	INTEGER	UNKNOWN	88										
IDARM		INTEGER	UNKNOWN	189	190	191	192	193	194	195	196	197	198	199
IDSP02	IDARM	INTEGER	SIMPLE	190										
IEFLUX	ICNTRL	INTEGER	UNKNOWN	82										

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OF POOR QUALITY

IFUSION	ICNTRL	INTEGER	UNKNOWN	83																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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INITSD 9

INITSD 10

RDPM	REAL	UNKNOWN	178	179	180	181	182	183	184	185	186	215	216
			206	207	208	209	210	211	212	213	214	215	216
			217	218	219	220	221	222	223	224	225	226	227
			228	229	230	231	232	233	234	235	236	237	238
			239	240									
RGAS	RCNTRL	REAL	SIMPLE	171									
RLAT	RDPM	REAL	ARRAY	229									
RLATD	RDPM	REAL	ARRAY	230									
ROCP	RCNTRL	REAL	SIMPLE	172									
ROCPDT	RDPM	REAL	SIMPLE	231									
ROCPP1	RDPM	REAL	SIMPLE	232									
RSDIST	RCNTRL	REAL	SIMPLE	173									
SDAY	RCNTRL	REAL	SIMPLE	174									
SEASON	RCNTRL	REAL	SIMPLE	175									
SGNP	RDPM	REAL	ARRAY	233									
SH	QANDQT	REAL	ARRAY	282	291								
SHS	QANDQT	REAL	ARRAY	248	266								
SIG	RDPM	REAL	ARRAY	240									
SIGE	RCNTRL	REAL	ARRAY	176									
SIND	RCNTRL	REAL	SIMPLE	177									
SINL	RDPM	REAL	ARRAY	234									
SINLON	RDPM	REAL	ARRAY	235									
SMTH	QANDQT	REAL	ARRAY	243	261								
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125								
SOLS	RCNTRL	REAL	SIMPLE	178									
START	LDPM	LOGICAL	SIMPLE	202	205								
T	QANDQT	REAL	ARRAY	281	290								
THSTD	RDPM	REAL	SIMPLE	236									
THSTD2	RDPM	REAL	SIMPLE	237									
TMAX	QANDQT	REAL	ARRAY	251	269	301/S							
TMIN	QANDQT	REAL	ARRAY	250	268	300/S							
TS	QANDQT	REAL	ARRAY	247	265								
TSTD	RCNTRL	REAL	SIMPLE	179									
U	QANDQT	REAL	ARRAY	279	288								
V	QANDQT	REAL	ARRAY	280	289								
VER	CCNTRL	CHAR*8	SIMPLE	10	23								
WSAVE	RDPM	REAL	ARRAY	238									
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24								

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00001

SUBROUTINE INPUT (*)

PURPOSE

TO READ MODEL CONTROL NAMELIST AND MODEL INITIAL CONDITIONS
AND SET DEPENDENT PARAMETERS.

CALLLED BY MAIN (GWSGCM) ONLY

USAGE

ARGUMENTS

DESCRIPTION
I/O ERROR RETURN

I/O DDNAME

DESCRIPTION
5 CARD-IMAGE DATA INCLUDING INPUTZ NAMELIST (EXXXNL)
11 REWINDABLE COPY OF CARD-IMAGE DATA FROM UNIT 5 (TEMPNL)
12 MODEL INITIAL OR RESTART CONDITIONS (EXXXRS1)

SUBPROGRAMS NEEDED

NAME DESCRIPTION
IOQ READS INITIAL CONDITIONS FOR THIS FORECAST SEGMENT
DEFAULT DEFAULT PARAMETERS IF INITIAL START
DEPEND CALCULATE DEPENDENT VARIABLES
POLINP COPIES POLE VALUS FROM GLOBAL MODEL ARRAY

RECORD OF MODIFICATIONS
BASED ON OLD VERSION 8.

?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS?
05/17/83 RAMESH THIS PART AND COMMENTS

REMARKS:

(1) ?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.

M / A - C O M S I G M A D A T A I N G N A S A - G S F C

CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD

COMMON /CCNTRL/ CCO
COMMON /CCNTRL/ ADATE
COMMON /CCNTRL/ ATIME
COMMON /CCNTRL/ JIC
COMMON /CCNTRL/ JOB
COMMON /CCNTRL/ CCSP06
COMMON /CCNTRL/ CCSP07
COMMON /CCNTRL/ CCSP08
COMMON /CCNTRL/ VER
COMMON /CCNTRL/ XLABEL (10)
COMMON /CCNTRL/ CQS (30)
COMMON /CCNTRL/ CQU (10)

EQUIVALENCE (CCO,CC(1))
CHARACTER*8 CCO, CC(200)
CHARACTER*8 ADATE
CHARACTER*8 ATIME
CHARACTER*8 JIC
CHARACTER*8 JOB
CHARACTER*8 CCSP06
CHARACTER*8 CCSP07
CHARACTER*8 CCSP08
CHARACTER*8 VER
CHARACTER*8 XLABEL

INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD

COMMON /ICNTRL/ IOQ
COMMON /ICNTRL/ IM
COMMON /ICNTRL/ IMD2
COMMON /ICNTRL/ IMD2P1

SINPUT 2
SINPUT 3
SINPUT 4
SINPUT 5
SINPUT 6
SINPUT 7
SINPUT 8
SINPUT 9
SINPUT 10
SINPUT 11
SINPUT 12
SINPUT 13
SINPUT 14
SINPUT 15
SINPUT 16
SINPUT 17
SINPUT 18
SINPUT 19
SINPUT 20
SINPUT 21
SINPUT 22
SINPUT 23
SINPUT 24
SINPUT 25
SINPUT 26
SINPUT 27
SINPUT 28
SINPUT 29
SINPUT 30
SINPUT 31
SINPUT 32
SINPUT 33
SINPUT 34
SINPUT 35
SINPUT 36
SINPUT 37
SINPUT 38
SCNTRL 2
SCNTRL 3
SCNTRL 4
SCNTRL 5
SCNTRL 6
SCNTRL 7
SCNTRL 8
SCNTRL 9
SCNTRL 10
SCNTRL 11
SCNTRL 12
SCNTRL 13
SCNTRL 14
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SCNTRL 31
SCNTRL 32
SCNTRL 33
SCNTRL 34
SCNTRL 35

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INPUT 1

00029	COMMON /ICNTRL/ NDRSW	SCNTRL 36
00030	COMMON /ICNTRL/ JM	SCNTRL 37
00031	COMMON /ICNTRL/ JMD2	SCNTRL 38
00032	COMMON /ICNTRL/ JMT2	SCNTRL 39
00033	COMMON /ICNTRL/ JNP	SCNTRL 40
00034	COMMON /ICNTRL/ JO4	SCNTRL 41
00035	COMMON /ICNTRL/ JO8	SCNTRL 42
00036	COMMON /ICNTRL/ JSP	SCNTRL 43
00037	COMMON /ICNTRL/ KLIALB	SCNTRL 44
00038	COMMON /ICNTRL/ KLIGW	SCNTRL 45
00039	COMMON /ICNTRL/ KLISST	SCNTRL 46
00040	COMMON /ICNTRL/ KS	SCNTRL 47
00041	COMMON /ICNTRL/ KU	SCNTRL 48
00042	COMMON /ICNTRL/ LOGBR	SCNTRL 49
00043	COMMON /ICNTRL/ MATIN	SCNTRL 50
00044	COMMON /ICNTRL/ MATSNX	SCNTRL 51
00045	COMMON /ICNTRL/ MATSUN	SCNTRL 52
00046	COMMON /ICNTRL/ MLF (12)	SCNTRL 53
00047	COMMON /ICNTRL/ MRD	SCNTRL 54
00048	COMMON /ICNTRL/ NKRSR	SCNTRL 55
00049	COMMON /ICNTRL/ MSM	SCNTRL 56
00050	COMMON /ICNTRL/ NB	SCNTRL 57
00051	COMMON /ICNTRL/ ND	SCNTRL 58
00052	COMMON /ICNTRL/ NDALT	SCNTRL 59
00053	COMMON /ICNTRL/ NDAY	SCNTRL 60
00054	COMMON /ICNTRL/ NDOUT	SCNTRL 61
00055	COMMON /ICNTRL/ NDPHY	SCNTRL 62
00056	COMMON /ICNTRL/ NDSHF	SCNTRL 63
00057	COMMON /ICNTRL/ NDT	SCNTRL 64
00058	COMMON /ICNTRL/ NHMS	SCNTRL 65
00059	COMMON /ICNTRL/ NHMSE	SCNTRL 66
00060	COMMON /ICNTRL/ NHMS0	SCNTRL 67
00061	COMMON /ICNTRL/ NLAY	SCNTRL 68
00062	COMMON /ICNTRL/ NLAYM1	SCNTRL 69
00063	COMMON /ICNTRL/ NLAYP1	SCNTRL 70
00064	COMMON /ICNTRL/ NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
C		SCNTRL 84
00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 85
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 86
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 87
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 88
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 89
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 91
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 92
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 93
00086	EQUIVALENCE (IICLOUD ,IQS(10))	SCNTRL 94
C		SCNTRL 95
00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 96
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 97
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 98
C		SCNTRL 99
00090	EQUIVALENCE (IC0,IC(1))	SCNTRL 100
00091	INTEGER IC0, IC(200)	SCNTRL 101
C		SCNTRL 102
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL 103
C	=====	SCNTRL 104
00092	COMMON /LCNTRL/ LCO	SCNTRL 105
00093	COMMON /LCNTRL/ QALT	SCNTRL 106

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00094	COMMON /LCNTRL/ QBEG	SCNTRL 107
00095	COMMON /LCNTRL/ QDAY	SCNTRL 108
00096	COMMON /LCNTRL/ QEND	SCNTRL 109
00097	COMMON /LCNTRL/ QOUT	SCNTRL 110
00098	COMMON /LCNTRL/ QPHY	SCNTRL 111
00099	COMMON /LCNTRL/ QSHF	SCNTRL 112
00100	COMMON /LCNTRL/ SN2FLG	SCNTRL 113
00101	COMMON /LCNTRL/ QRSW	SCNTRL 114
00102	COMMON /LCNTRL/ QRSW	SCNTRL 115
00103	COMMON /LCNTRL/ LQS(30)	SCNTRL 116
00104	COMMON /LCNTRL/ LQU(10)	SCNTRL 117
	C	SCNTRL 118
00105	EQUIVALENCE (LTMIN ,LQS(1))	SCNTRL 119
00106	EQUIVALENCE (LTMAX ,LQS(2))	SCNTRL 120
00107	EQUIVALENCE (LPREACC ,LQS(3))	SCNTRL 121
00108	EQUIVALENCE (LPRECON ,LQS(4))	SCNTRL 122
00109	EQUIVALENCE (LHFLUX ,LQS(5))	SCNTRL 123
00110	EQUIVALENCE (LEFLUX ,LQS(6))	SCNTRL 124
00111	EQUIVALENCE (LFUSION ,LQS(7))	SCNTRL 125
00112	EQUIVALENCE (LRADSWG ,LQS(8))	SCNTRL 126
00113	EQUIVALENCE (LRADLWG ,LQS(9))	SCNTRL 127
00114	EQUIVALENCE (LICLOUD ,LQS(10))	SCNTRL 128
	C	SCNTRL 129
00115	EQUIVALENCE (LOMEGA ,LQU(1))	SCNTRL 130
00116	EQUIVALENCE (LDIABAT ,LQU(2))	SCNTRL 131
00117	EQUIVALENCE (LRADSW ,LQU(3))	SCNTRL 132
	C	SCNTRL 133
00118	LOGICAL QALT	SCNTRL 134
00119	LOGICAL QBEG	SCNTRL 135
00120	LOGICAL QDAY	SCNTRL 136
00121	LOGICAL QEND	SCNTRL 137
00122	LOGICAL QOUT	SCNTRL 138
00123	LOGICAL QPHY	SCNTRL 139
00124	LOGICAL QSHF	SCNTRL 140
00125	LOGICAL SN2FLG	SCNTRL 141
00126	LOGICAL QRSW	SCNTRL 142
00127	LOGICAL QRSW	SCNTRL 143
	C	SCNTRL 144
00128	LOGICAL LQS	SCNTRL 145
00129	LOGICAL LQU	SCNTRL 146
00130	LOGICAL LTMIN	SCNTRL 147
00131	LOGICAL LTMAX	SCNTRL 148
00132	LOGICAL LPREACC	SCNTRL 149
00133	LOGICAL LPRECON	SCNTRL 150
00134	LOGICAL LHFLUX	SCNTRL 151
00135	LOGICAL LEFLUX	SCNTRL 152
00136	LOGICAL LFUSION	SCNTRL 153
00137	LOGICAL LRADSWG	SCNTRL 154
00138	LOGICAL LRADLWG	SCNTRL 155
00139	LOGICAL LICLOUD	SCNTRL 156
	C	SCNTRL 157
00140	LOGICAL LOMEGA	SCNTRL 158
00141	LOGICAL LDIABAT	SCNTRL 159
00142	LOGICAL LRADSW	SCNTRL 160
	C	SCNTRL 161
00143	EQUIVALENCE (LC0,LC(1))	SCNTRL 162
00144	LOGICAL LC0, LC(200)	SCNTRL 163
	C	SCNTRL 164
	C	SCNTRL 165
	C	SCNTRL 166
	C	SCNTRL 167
	C	SCNTRL 168
	C	SCNTRL 169
	C	SCNTRL 170
	C	SCNTRL 171
	C	SCNTRL 172
	C	SCNTRL 173
	C	SCNTRL 174
	C	SCNTRL 175
	C	SCNTRL 176
	C	SCNTRL 177
00145	COMMON /RCNTRL/ RCO	
00146	COMMON /RCNTRL/ APHEL	
00147	COMMON /RCNTRL/ BETA	
00148	COMMON /RCNTRL/ COSD	
00149	COMMON /RCNTRL/ CP	
00150	COMMON /RCNTRL/ DAYSPLY	
00151	COMMON /RCNTRL/ DEC	
00152	COMMON /RCNTRL/ DECMAK	
00153	COMMON /RCNTRL/ DIST	
00154	COMMON /RCNTRL/ DLAT	
00155	COMMON /RCNTRL/ DLON	

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00157	COMMON /RCNTRL/ ECCN	SCNTRL 179
00158	COMMON /RCNTRL/ GNU1	SCNTRL 180
00159	COMMON /RCNTRL/ GNU2	SCNTRL 181
00160	COMMON /RCNTRL/ GRAV	SCNTRL 182
00161	COMMON /RCNTRL/ OMEGA2	SCNTRL 183
00162	COMMON /RCNTRL/ PI	SCNTRL 184
00163	COMMON /RCNTRL/ PI180	SCNTRL 185
00164	COMMON /RCNTRL/ PI2	SCNTRL 186
00165	COMMON /RCNTRL/ PSTD	SCNTRL 187
00166	COMMON /RCNTRL/ PIMEAN	SCNTRL 188
00167	COMMON /RCNTRL/ PSMAX	SCNTRL 189
00168	COMMON /RCNTRL/ PSMIN	SCNTRL 190
00169	COMMON /RCNTRL/ PTOP	SCNTRL 191
00170	COMMON /RCNTRL/ RADE	SCNTRL 192
00171	COMMON /RCNTRL/ RGAS	SCNTRL 193
00172	COMMON /RCNTRL/ ROCP	SCNTRL 194
00173	COMMON /RCNTRL/ RSDIST	SCNTRL 195
00174	COMMON /RCNTRL/ SDAY	SCNTRL 196
00175	COMMON /RCNTRL/ SEASON	SCNTRL 197
00176	COMMON /RCNTRL/ SIGE (25)	SCNTRL 198
00177	COMMON /RCNTRL/ SIND	SCNTRL 199
00178	COMMON /RCNTRL/ SOLS	SCNTRL 200
00179	COMMON /RCNTRL/ TSTD	SCNTRL 201
00180	COMMON /RCNTRL/ PLEVS (25)	SCNTRL 202
00181	COMMON /RCNTRL/ HEATW	SCNTRL 203
00182	COMMON /RCNTRL/ HEATI	SCNTRL 204
00183	COMMON /RCNTRL/ EPS	SCNTRL 205
00184	COMMON /RCNTRL/ EPSFAC	SCNTRL 206
00185	COMMON /RCNTRL/ CALTOJ	SCNTRL 207
00186	COMMON /RCNTRL/ PZERO	SCNTRL 208
C		SCNTRL 209
00187	EQUIVALENCE (RC0,RC(1))	SCNTRL 210
00188	REAL RC0, RC(200)	SCNTRL 211
C		SCNTRL 212
C	INTEGER MODEL CONSTANTS	SCNTRL 213
C	=====	SCNTRL 214
00189	COMMON /IDPARM/ IJUMP (46)	SCNTRL 215
00190	COMMON /IDPARM/ IDSP02	SCNTRL 216
00191	COMMON /IDPARM/ INDEX (72)	SCNTRL 217
00192	COMMON /IDPARM/ IROD	SCNTRL 218
00193	COMMON /IDPARM/ JC (46)	SCNTRL 219
00194	COMMON /IDPARM/ JE (2)	SCNTRL 220
00195	COMMON /IDPARM/ JP (2,2)	SCNTRL 221
00196	COMMON /IDPARM/ KSTEP	SCNTRL 222
00197	COMMON /IDPARM/ MJ (46)	SCNTRL 223
00198	COMMON /IDPARM/ NHMS1	SCNTRL 224
00199	COMMON /IDPARM/ NYMD1	SCNTRL 225
C		SCNTRL 226
C	LOGICAL MODEL CONSTANTS	SCNTRL 227
C	=====	SCNTRL 228
00200	COMMON /LDPARM/ FILTER (46)	SCNTRL 229
00201	COMMON /LDPARM/ ITAPE	SCNTRL 230
00202	COMMON /LDPARM/ START	SCNTRL 231
C		SCNTRL 232
00203	LOGICAL FILTER	SCNTRL 233
00204	LOGICAL ITAPE	SCNTRL 234
00205	LOGICAL START	SCNTRL 235
C		SCNTRL 236
C	REAL MODEL CONSTANTS	SCNTRL 237
C	=====	SCNTRL 238
00206	COMMON /RDPARM/ ADLDP	SCNTRL 239
00207	COMMON /RDPARM/ CON1	SCNTRL 240
00208	COMMON /RDPARM/ CON1DT	SCNTRL 241
00209	COMMON /RDPARM/ CON2	SCNTRL 242
00210	COMMON /RDPARM/ CON2DT	SCNTRL 243
00211	COMMON /RDPARM/ CON3	SCNTRL 244
00212	COMMON /RDPARM/ CON3DT	SCNTRL 245
00213	COMMON /RDPARM/ CON4	SCNTRL 246
00214	COMMON /RDPARM/ CON4DT	SCNTRL 247
00215	COMMON /RDPARM/ CON5	SCNTRL 248

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00216	COMMON /RDPARM/ COSL (46)	SCNTRL 249
00217	COMMON /RDPARM/ COSLON (72)	SCNTRL 250
00218	COMMON /RDPARM/ CPD2	SCNTRL 251
00219	COMMON /RDPARM/ DXP (46)	SCNTRL 252
00220	COMMON /RDPARM/ DXYP (46)	SCNTRL 253
00221	COMMON /RDPARM/ DYP (46)	SCNTRL 254
00222	COMMON /RDPARM/ FCORLS (46)	SCNTRL 255
00223	COMMON /RDPARM/ FIDT	SCNTRL 256
00224	COMMON /RDPARM/ F2DT	SCNTRL 257
00225	COMMON /RDPARM/ H1DT	SCNTRL 258
00226	COMMON /RDPARM/ H2DT	SCNTRL 259
00227	COMMON /RDPARM/ PKSTD	SCNTRL 260
00228	COMMON /RDPARM/ PKTOP	SCNTRL 261
00229	COMMON /RDPARM/ RLAT (46)	SCNTRL 262
00230	COMMON /RDPARM/ RLATD (46)	SCNTRL 263
00231	COMMON /RDPARM/ ROC PDT	SCNTRL 264
00232	COMMON /RDPARM/ ROC PP1	SCNTRL 265
00233	COMMON /RDPARM/ SGNP (2)	SCNTRL 266
00234	COMMON /RDPARM/ SINL (46)	SCNTRL 267
00235	COMMON /RDPARM/ SINLON (72)	SCNTRL 268
00236	COMMON /RDPARM/ THSTD	SCNTRL 269
00237	COMMON /RDPARM/ THSTD2	SCNTRL 270
00238	COMMON /RDPARM/ WSAVE (159)	SCNTRL 271
00239	COMMON /RDPARM/ DSIG (9)	SCNTRL 272
00240	COMMON /RDPARM/ SIG (9)	SCNTRL 273
		SCNTRL 274
		SQANDQT 2
		SQANDQT 3
00241	C * * *	SQANDQT 4
	C GLOBAL MODEL SURFACE FIELDS	SQANDQT 5
	COMMON /QANDQT/ QS(72,19,46)	SQANDQT 6
00242	C	SQANDQT 7
00243	DIMENSION PHIS(1368,1)	SQANDQT 8
00244	DIMENSION SMTH(1368,23)	SQANDQT 9
00245	DIMENSION ALBEDO(1368,1)	SQANDQT 10
00246	DIMENSION GT(1368,1)	SQANDQT 11
00247	DIMENSION GW(1368,1)	SQANDQT 12
00248	DIMENSION TS(1368,1)	SQANDQT 13
00249	DIMENSION SHS(1368,1)	SQANDQT 14
00250	DIMENSION P(72,19,1)	SQANDQT 15
00251	DIMENSION TMIN(1368,1)	SQANDQT 16
00252	DIMENSION TMAX(1368,1)	SQANDQT 17
00253	DIMENSION PREACC(1368,1)	SQANDQT 18
00254	DIMENSION PRECON(1368,1)	SQANDQT 19
00255	DIMENSION HFLUX(1368,1)	SQANDQT 20
00256	DIMENSION EFLUX(1368,1)	SQANDQT 21
00257	DIMENSION FUSION(1368,1)	SQANDQT 22
00258	DIMENSION RADSWG(1368,1)	SQANDQT 23
00259	DIMENSION RADLWG(1368,1)	SQANDQT 24
	DIMENSION ICLOUD(1368,1)	SQANDQT 25
00260	C	SQANDQT 26
00261	EQUIVALENCE (QS(1,1,1),PHIS(1,1))	SQANDQT 27
00262	EQUIVALENCE (QS(1,2,1),SMTH(1,1))	SQANDQT 28
00263	EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))	SQANDQT 29
00264	EQUIVALENCE (QS(1,4,1),GT(1,1))	SQANDQT 30
00265	EQUIVALENCE (QS(1,5,1),GW(1,1))	SQANDQT 31
00266	EQUIVALENCE (QS(1,6,1),TS(1,1))	SQANDQT 32
00267	EQUIVALENCE (QS(1,7,1),SHS(1,1))	SQANDQT 33
00268	EQUIVALENCE (QS(1,8,1),P(1,1,1))	SQANDQT 34
00269	EQUIVALENCE (QS(1,10,1),TMIN(1,1))	SQANDQT 35
00270	EQUIVALENCE (QS(1,11,1),TMAX(1,1))	SQANDQT 36
00271	EQUIVALENCE (QS(1,12,1),PREACC(1,1))	SQANDQT 37
00272	EQUIVALENCE (QS(1,13,1),PRECON(1,1))	SQANDQT 38
00273	EQUIVALENCE (QS(1,14,1),HFLUX(1,1))	SQANDQT 39
00274	EQUIVALENCE (QS(1,15,1),EFLUX(1,1))	SQANDQT 40
00275	EQUIVALENCE (QS(1,16,1),FUSION(1,1))	SQANDQT 41
00276	EQUIVALENCE (QS(1,17,1),RADSWG(1,1))	SQANDQT 42
00277	EQUIVALENCE (QS(1,18,1),RADLWG(1,1))	SQANDQT 43
	EQUIVALENCE (QS(1,19,1),ICLOUD(1,1))	SQANDQT 44
	C * * *	SQANDQT 45
00278	C GLOBAL MODEL UPPER-AIR FIELDS	SQANDQT 46
	COMMON /QANDQT/ QU(72,9,14,46)	
	C	

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00279      DIMENSION      U(72,9,14,1)
00280      DIMENSION      V(72,9,14,1)
00281      DIMENSION      T(72,9,14,1)
00282      DIMENSION      SH(72,9,14,1)
00283      DIMENSION      PHI(72,9,14,1)
00284      DIMENSION      OMEGA(72,126,1)
00285      DIMENSION      DIABAT(72,126,1)
00286      DIMENSION      RADSW(72,126,1)
00287      DIMENSION      RADLW(72,126,1)

00288      C      EQUIVALENCE      (QU(1,1,1,1),U(1,1,1,1))
00289      EQUIVALENCE      (QU(1,1,3,1),V(1,1,1,1))
00290      EQUIVALENCE      (QU(1,1,5,1),T(1,1,1,1))
00291      EQUIVALENCE      (QU(1,1,7,1),SH(1,1,1,1))
00292      EQUIVALENCE      (QU(1,1,9,1),PHI(1,1,1,1))
00293      EQUIVALENCE      (QU(1,1,11,1),OMEGA(1,1,1,1))
00294      EQUIVALENCE      (QU(1,1,12,1),DIABAT(1,1,1,1))
00295      EQUIVALENCE      (QU(1,1,13,1),RADSW(1,1,1,1))
00296      EQUIVALENCE      (QU(1,1,14,1),RADLW(1,1,1,1))

00297      C      ONE-DIMENSIONAL WORK AREAS
00298      COMMON      CARD(10), DATA(144), CATA(144)
00299      CHARACTER*8      PK(72,9), PT(72,9)
00299      CHARACTER*8      CARD

00300      C      IDENTIFYING LABELS OF MODEL HISTORY RECORD QUANTITIES
00301      COMMON /CORDER/ XORDS(19), XORDU(14)
00301      CHARACTER*8 XORDS, XORDU

00302      C      INPUT MODEL PARAMETER NAMELIST
00302      C      SEE MODEL TECHNICAL DOCUMENTATION FOR EXTENSIVE DETAILS
00302      NAMELIST /INPUTZ/ NYMD1, NHMS1, NYMDE, NHMSE,
00302      C      JOB, XLABEL,
00302      NDOUT, NDRSW, NKRSH, MROD,
00302      NDALT, NDPHY, NDSHF,
00302      JO4, JO8,
00302      KLIALB, KLI GW, KLISST,
00302      MATIN, MLF, NDT, NSEQ,
00302      SN2FLG,
00302      PIMEAN, PSMAX, PS MIN, PSTD, TSTD,
00302      SIGE, GNU2, SMTH

00302      C      VAR      LOC      DEFAULT      DESCRIPTION
00302      C      ===      ===      =====      =====
00302      NYMD1 /IDPARM/ 000000 YYMMDD AT START OF EXPERIMENT
00302      NHMS1 /IDPARM/ 000000 HHMMSS AT START OF EXPERIMENT
00302      NYMDE /ICNTRL/ 000000 YYMMDD AT END OF EXPERIMENT
00302      NHMSE /ICNTRL/ 000000 HHMMSS AT END OF EXPERIMENT
00302      JOB /CCNTRL/ ' 8 CHARACTER EXPERIMENT IDENTIFIER
00302      XLABEL /CCNTRL/ 80 CHARACTER EXPERIMENT DESCRIPTION
00302      NDOUT /ICNTRL/ 030000 HHMMSS WRITE INCREMENT TO HISTORY
00302      NDRSW /ICNTRL/ 060000 HHMMSS WRITE INCREMENT TO RESTART
00302      NKRSH /ICNTRL/ -1 KEY FOR WRITE OF RESTART TO HISTORY
00302      -1 FOR START AND END OF EXPERIMENT
00302      0 FOR NEVER
00302      N FOR EVERY N'TH DAY
00302      MROD /ICNTRL/ 25 MAXIMUM ALLOWABLE WRITES TO UNIT 08
00302      NDALT /ICNTRL/ 000000 HHMMSS INCREMENT FOR ANALYSIS
00302      NDPHY /ICNTRL/ 003000 HHMMSS INCREMENT FOR PHYSICS
00302      NDSHF /ICNTRL/ 023000 HHMMSS INCREMENT FOR SHAPIRO FILTER
00302      JO4 /ICNTRL/ 0 BAND LIMIT FOR 4'TH ORDER SHAPIRO
00302      JO8 /ICNTRL/ 0 BAND LIMIT FOR 8'TH ORDER SHAPIRO
00302      KLIALB /ICNTRL/ 1 ALBEDO FLAG
00302      KLI GW /ICNTRL/ 1 GROUND WETNESS FLAG
00302      KLISST /ICNTRL/ 1 SEA SURFACE TEMPERATURE FLAG
00302      MATIN /ICNTRL/ 1 MATSUNO STEPS BEFORE REGULAR CYCLE
00302      MFL /ICNTRL/ 1.11*0 REGULAR CYCLE DESCRIPTION
00302      NDT /ICNTRL/ 34200/IM TIMESTEP IN SECONDS

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SQANDQT 47
SQANDQT 48
SQANDQT 49
SQANDQT 50
SQANDQT 51
SQANDQT 52
SQANDQT 53
SQANDQT 54
SQANDQT 55
SQANDQT 56
SQANDQT 57
SQANDQT 58
SQANDQT 59
SQANDQT 60
SQANDQT 61
SQANDQT 62
SQANDQT 63
SQANDQT 64
SQANDQT 65
SQANDQT 66
SWORK1D 2
SWORK1D 3
SWORK1D 4
SWORK1D 5
SWORK1D 6
SWORK1D 7
SCORDER 2
SCORDER 3
SCORDER 4
SCORDER 5
SINPUTZ 2
SINPUTZ 3
SINPUTZ 4
SINPUTZ 5
SINPUTZ 6
SINPUTZ 7
SINPUTZ 8
SINPUTZ 9
SINPUTZ 10
SINPUTZ 11
SINPUTZ 12
SINPUTZ 13
SINPUTZ 14
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SINPUTZ 32
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SINPUTZ 35
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SINPUTZ 37
SINPUTZ 38
SINPUTZ 39
SINPUTZ 40
SINPUTZ 41
SINPUTZ 42

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C	NSEQ	/ICNTRL/	1	LENGTH OF REGULAR CYCLE	SINPUTZ 43
C	NS2FLG	/LCNTRL/	F	PBL SIGMA PROFILE FLAG	SINPUTZ 44
C	PIMEAN	/RCNTRL/	FROM IC	GLOBAL MEAN PRESSURE	SINPUTZ 45
C	PSMAX	/RCNTRL/	1200.	MAXIMUM ALLOWABLE SURFACE PRESSURE	SINPUTZ 46
C	PSMIN	/RCNTRL/	300.	MINIMUM ALLOWABLE SURFACE PRESSURE	SINPUTZ 47
C	PSTD	/RCNTRL/	1000.	REFERENCE PRESSURE FOR NORMALIZATION	SINPUTZ 48
C	TSTD	/RCNTRL/	280.	REFERENCE TEMP FOR NORMALIZATION	SINPUTZ 49
C	SIGE	/RCNTRL/	UNIFORM	SIGMA VALUES AT EDGES OF LAYERS	SINPUTZ 50
C	GNUZ	/RCNTRL/	0.	CONSTANT FOR USE IN TIME AVERAGE	SINPUTZ 51
C	SMTH	/QANDQT/	SEE DEFALT	DAMPING FACTORS FOR GRAVITY WAVES	SINPUTZ 52
C					SINPUTZ 53
00303		LOGICAL SKIP			SINPUT 44
00304		CHARACTER*8 MACHID,VERSAVE			SINPUT 45
00305		DATA MACHID /8HCDC /			SINPUT 46
C					SINPUT 47
C					SINPUT 48
C					SINPUT 49
C					SINPUT 50
C					SINPUT 51
C					SINPUT 52
C					SINPUT 53
00306		WRITE (3,6000) VER			SINPUT 54
00307	10	CONTINUE			SINPUT 55
00308		READ (5,6010,END=15) CARD			SINPUT 56
00309		WRITE (11,6010) CARD			SINPUT 57
00310		WRITE (3,6015) CARD			SINPUT 58
00311		GO TO 10			SINPUT 59
00312	15	CONTINUE			SINPUT 60
00313		NYMD1 = 0			SINPUT 61
00314		NHMS1 = 0			SINPUT 62
00315		REWIND 11			SINPUT 63
00316		READ (11,INPUZ,END=20)			SINPUT 64
00317	20	CONTINUE			SINPUT 65
C					SINPUT 66
C					SINPUT 67
00318		WRITE (3,6040) NYMD, NHMS, LOGSR,			SINPUT 68
C		JOB, IM, JM, NLAY, KS, KU			SINPUT 69
C					SINPUT 70
C		INITIAL START OR RESTART FROM LOG12			SINPUT 71
C		REQUIRED PARAMETERS ON INPUT ARE			SINPUT 72
C		IM, JM, NLAY, KS, KU, NB, ND, JOB, NYMD, NHMS, LOGSR			SINPUT 73
C					SINPUT 74
C					SINPUT 75
00319		LU = 12			SINPUT 76
00320		IROD = 0			SINPUT 77
00321		WRITE (3,6020)			SINPUT 78
C					SINPUT 79
C					SINPUT 80
C					SINPUT 81
C					SINPUT 82
C		READ INITIAL CONDITIONS FOR THIS FORECAST SEGMENT			SINPUT 83
C		SEARCH FOR SPECIFIC TIME OR TYPE OF RECORD			SINPUT 84
C					SINPUT 85
C					SINPUT 86
C					SINPUT 87
00322	40	CONTINUE			SINPUT 88
00323		VERSAVE = VER			SINPUT 89
00324		CALL IOQ (LU,1,0.8810,8820)			SINPUT 90
00325		IROD = IROD + 1			SINPUT 91
00326		WRITE (3,6040) NYMD, NHMS, LOGSR,			SINPUT 92
C		JOB, IM, JM, NLAY, KS, KU			SINPUT 93
00327		IOFLAG = 1			SINPUT 94
00328		IF (LOGSR .NE. 0) IOFLAG = 0			SINPUT 95
00329		IF (LOGSR .EQ. 6) IOFLAG = 1			SINPUT 96
C					SINPUT 97
C					SINPUT 98
C					SINPUT 99
C		READ IN DATA BY LATITUDE BAND			SINPUT 100
C					SINPUT 101
C					SINPUT 102
C					SINPUT 103

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10 307 311

15	312	308
20	317	316
40	322	334
45	333	331
50	348	346
60	349	
6000	357	306
6010	358	308
6015	359	310
6020	360	321
6040	361	318
6045	362	345
6050	363	347
6810	364	352
6820	365	355
810	351	
820	354	

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VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

ADATE	CCNTRL	CHAR*8	SIMPLE	3	15														
ADLDP	RDPARM	REAL	SIMPLE	206															
ALBEDO	QANDQT	REAL	ARRAY	244	262														
APHEL	RCNTRL	REAL	SIMPLE	146															
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17														
BETA	RCNTRL	REAL	SIMPLE	147															
CALTOJ	RCNTRL	REAL	SIMPLE	185															
CARD	//	CHAR*8	ARRAY	287	299	308/R	309/W	310/W											
CATA	//	REAL	ARRAY	297															
CC	CCNTRL	CHAR*8	ARRAY	14	15														
CCO	CCNTRL	CHAR*8	SIMPLE	2	14	15	339/S												
CCNTRL		REAL	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12					
				13															
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20														
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21														
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22														
CON1	RDPARM	REAL	SIMPLE	207															
CON1DT	RDPARM	REAL	SIMPLE	208															
CON2	RDPARM	REAL	SIMPLE	209															
CON2DT	RDPARM	REAL	SIMPLE	210															
CON3	RDPARM	REAL	SIMPLE	211															
CON3DT	RDPARM	REAL	SIMPLE	212															
CON4	RDPARM	REAL	SIMPLE	213															
CON4DT	RDPARM	REAL	SIMPLE	214															
CON5	RDPARM	REAL	SIMPLE	215															
CORDER		REAL	UNKNOWN	300															
COSD	RCNTRL	REAL	SIMPLE	148															
COSL	RDPARM	REAL	ARRAY	216															
COSLON	RDPARM	REAL	ARRAY	217															
CP	RCNTRL	REAL	SIMPLE	149															
CPD2	RDPARM	REAL	SIMPLE	218															
CQS	CCNTRL	REAL	ARRAY	12															
CQU	CCNTRL	REAL	ARRAY	13															
DATA	//	REAL	ARRAY	297															
DAYSPY	RCNTRL	REAL	SIMPLE	150															
DEC	RCNTRL	REAL	SIMPLE	151															
DECMAX	RCNTRL	REAL	SIMPLE	152															
DIABAT	QANDQT	REAL	ARRAY	285	294														
DIST	RCNTRL	REAL	SIMPLE	153															
DLAT	RCNTRL	REAL	SIMPLE	154															
DLON	RCNTRL	REAL	SIMPLE	155															
DSIG	RDPARM	REAL	ARRAY	239															
DT	RCNTRL	REAL	SIMPLE	156															
DXP	RDPARM	REAL	ARRAY	219															
DXYP	RDPARM	REAL	ARRAY	220															
DYP	RDPARM	REAL	ARRAY	221															
ECCN	RCNTRL	REAL	SIMPLE	157															
EFLUX	QANDQT	REAL	ARRAY	255	273														
EPS	RCNTRL	REAL	SIMPLE	183															

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INPUT 9

Variable	Mode	Real	Simple	Integer	Array	Subroutine	Unknown
EPSFAC	RDPMRM	REAL	SIMPLE	223			
F1DT	RDPMRM	REAL	SIMPLE	224			
F2DT	RDPMRM	REAL	SIMPLE	222			
FCORLS	RDPMRM	REAL	ARRAY	200	203	347	
FILTER	LDPMRM	LOGICAL	ARRAY	256	274		
FUSION	QANDQT	REAL	ARRAY	158			
GNU1	RCNTRL	REAL	SIMPLE	159	302		
GNU2	RCNTRL	REAL	SIMPLE	160			
GRAV	RCNTRL	REAL	SIMPLE	245	263		
GT	QANDQT	REAL	ARRAY	246	264		
GW	QANDQT	REAL	ARRAY	225			
H1DT	RDPMRM	REAL	SIMPLE	226			
H2DT	RDPMRM	REAL	SIMPLE	182			
HEATI	RCNTRL	REAL	SIMPLE	181			
HEATW	RCNTRL	REAL	SIMPLE	254	272		
HFLUX	QANDQT	REAL	ARRAY	345/W	345/C	347	347/C
I		INTEGER	SIMPLE	90	91		
IC	ICNTRL	INTEGER	ARRAY	25	90	91	
ICO	ICNTRL	INTEGER	SIMPLE	259	277		
ICLOUD	QANDQT	INTEGER	ARRAY	25	26	27	28
ICNTRL		INTEGER	UNKNOWN	36	37	38	39
				47	48	49	50
				58	59	60	61
				69	70	71	72
				65			73
				66			74
				68			75
				88			76
ICSP53	ICNTRL	INTEGER	SIMPLE	189	190	191	192
ICSP55	ICNTRL	INTEGER	SIMPLE	190			193
IDTABAT	ICNTRL	INTEGER	UNKNOWN	82			194
IDPARM	IDPARM	INTEGER	UNKNOWN	83			195
IDSP02	IDPARM	INTEGER	SIMPLE	81			196
IEFLUX	ICNTRL	INTEGER	UNKNOWN	86			197
IFUSION	ICNTRL	INTEGER	UNKNOWN	189			198
IHFLUX	ICNTRL	INTEGER	UNKNOWN	26	318/W	326/W	199
IICLOUD	ICNTRL	INTEGER	UNKNOWN	27	345	347	
IJUMP	IDPARM	INTEGER	ARRAY	28			
IM	ICNTRL	INTEGER	SIMPLE	191			
IMD2	ICNTRL	INTEGER	SIMPLE	1			
IMD2P1	ICNTRL	INTEGER	SIMPLE	302	316	337	
INDEX	IDPARM	INTEGER	ARRAY	327/S	328/S	329/S	332
INPUT		INTEGER	SUBROUTINE	87			334
INPUTZ		INTEGER	SIMPLE				
IOFLAG		INTEGER	SIMPLE				
IOMEGA	ICNTRL	INTEGER	UNKNOWN				
IPREACC	ICNTRL	INTEGER	UNKNOWN	79			
IPRECON	ICNTRL	INTEGER	UNKNOWN	80			
IQS	ICNTRL	INTEGER	ARRAY	75	77	78	79
IQU	ICNTRL	INTEGER	ARRAY	76	87	88	89
IRADLWG	ICNTRL	INTEGER	UNKNOWN	85			
IRADSW	ICNTRL	INTEGER	UNKNOWN	89			
IRADSWG	ICNTRL	INTEGER	UNKNOWN	84			
IROD	IDPARM	INTEGER	SIMPLE	192	320/S	325/S	325
ITAPE	LDPMRM	LOGICAL	SIMPLE	201	204		
ITMAX	ICNTRL	INTEGER	UNKNOWN	78			
ITMIN	ICNTRL	INTEGER	UNKNOWN	77			
J		INTEGER	SIMPLE	331/C	332	346/C	347
JC	IDPARM	INTEGER	ARRAY	193			347/W
JE	IDPARM	INTEGER	ARRAY	194			347
JIC	CCNTRL	CHAR*8	SIMPLE	5	18		
JM	ICNTRL	INTEGER	SIMPLE	30	318/W	326/W	330
JMD2	ICNTRL	INTEGER	SIMPLE	31			346
JMP1		INTEGER	SIMPLE	330/S	331		
JMT2	ICNTRL	INTEGER	SIMPLE	32			
JNP	ICNTRL	INTEGER	SIMPLE	33			
JO4	ICNTRL	INTEGER	SIMPLE	34	302		
JO8	ICNTRL	INTEGER	SIMPLE	35	302		
JO8	CCNTRL	CHAR*8	SIMPLE	6	19	302	318/W
JP	IDPARM	INTEGER	ARRAY	195			326/W
JSP	ICNTRL	INTEGER	SIMPLE	36			
KLIALB	ICNTRL	INTEGER	SIMPLE	37	302		
KLIGW	ICNTRL	INTEGER	SIMPLE	38	302		

KLISST	ICNTRL	INTEGER	SIMPLE	39	302															
KS	ICNTRL	INTEGER	SIMPLE	40	318/W	326/W														
KSTEP	IDPARM	INTEGER	SIMPLE	196																
KU	ICNTRL	INTEGER	SIMPLE	41	318/W	326/W														
LC	LCNTRL	LOGICAL	ARRAY	143	144															
LC0	LCNTRL	LOGICAL	SIMPLE	92	143	144														
LCNTRL	ICNTRL	INTEGER	UNKNOWN	92	93	94	95	96	97	98	99	100	101	102						
				103	104															
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	116	141															
LDPARM		INTEGER	UNKNOWN	200	201	202														
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	110	135															
LFUSION	LCNTRL	LOGICAL	UNKNOWN	111	136															
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	109	134															
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	139															
LOGBR	ICNTRL	INTEGER	SIMPLE	42	318/W	326/W	328	329												
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	115	140															
LPREACC	LCNTRL	LOGICAL	UNKNOWN	107	132															
LPRECON	LCNTRL	LOGICAL	UNKNOWN	108	133															
LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114						
				128																
LQU	LCNTRL	LOGICAL	ARRAY	104	115	116	117	129												
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138															
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	142															
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	112	137															
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131															
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130															
LU		INTEGER	SIMPLE	319/S	324	332	352/W	355/W												
MACHID		CHAR*8	SIMPLE	304	305/I	339														
MATIN	ICNTRL	INTEGER	SIMPLE	43	302															
MATSNX	ICNTRL	INTEGER	SIMPLE	44																
MATSUN	ICNTRL	INTEGER	SIMPLE	45																
MJ	IDPARM	INTEGER	ARRAY	197																
MLF	ICNTRL	INTEGER	ARRAY	46	302															
MROD	ICNTRL	INTEGER	SIMPLE	47	302															
MSM	ICNTRL	INTEGER	SIMPLE	49																
NB	ICNTRL	INTEGER	SIMPLE	50	341	343														
ND	ICNTRL	INTEGER	SIMPLE	51	342	344														
NDALT	ICNTRL	INTEGER	SIMPLE	52	302															
NDAY	ICNTRL	INTEGER	SIMPLE	53																
NDHOG	ICNTRL	INTEGER	SIMPLE	74																
NDOUT	ICNTRL	INTEGER	SIMPLE	54	302															
NDPHY	ICNTRL	INTEGER	SIMPLE	55	302															
NDRSW	ICNTRL	INTEGER	SIMPLE	29	302															
NDSHF	ICNTRL	INTEGER	SIMPLE	56	302															
NDT	ICNTRL	INTEGER	SIMPLE	57	302															
NHMS	ICNTRL	INTEGER	SIMPLE	58	318/W	326/W	335													
NHMS0	ICNTRL	INTEGER	SIMPLE	60																
NHMS1	IDPARM	INTEGER	SIMPLE	198	302	314/S	335													
NHMS2	ICNTRL	INTEGER	SIMPLE	59	302															
NKRSH	ICNTRL	INTEGER	SIMPLE	48	302															
NLAY	ICNTRL	INTEGER	SIMPLE	61	318/W	326/W														
NLAYM1	ICNTRL	INTEGER	SIMPLE	62																
NLAYP1	ICNTRL	INTEGER	SIMPLE	63																
NMLEV	ICNTRL	INTEGER	SIMPLE	73																
NSDAY	ICNTRL	INTEGER	SIMPLE	64																
NSEQ	ICNTRL	INTEGER	SIMPLE	65	302															
NSTEP	ICNTRL	INTEGER	SIMPLE	67																
NYMD	ICNTRL	INTEGER	SIMPLE	69	318/W	326/W	335													
NYMD0	ICNTRL	INTEGER	SIMPLE	71																
NYMD1	IDPARM	INTEGER	SIMPLE	199	302	313/S	335													
NYMD2	ICNTRL	INTEGER	SIMPLE	70	302															
NZINIT	ICNTRL	INTEGER	SIMPLE	72																
OMEGA	QANDQT	REAL	ARRAY	284	293															
OMEGA2	RCNTRL	REAL	SIMPLE	161																
P	QANDQT	REAL	ARRAY	249	267															
PHI	QANDQT	REAL	ARRAY	283	292															
PHIS	QANDQT	REAL	ARRAY	242	260															
PI	RCNTRL	REAL	SIMPLE	162																
PI180	RCNTRL	REAL	SIMPLE	163																
PI2	RCNTRL	REAL	SIMPLE	164																

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U	QANDQT	REAL	ARRAY	279	288			
V	QANDQT	REAL	ARRAY	280	289			
VER	CCNTRL	CHAR*8	SIMPLE	10	23	306/W	323	338/S
VERSAVE		CHAR*8	SIMPLE	304	323/S	338		
WSAVE	RDPARM	REAL	ARRAY	238				
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24	302		
XORDS	CORDER	CHAR*8	ARRAY	300	301			
XORDU	CORDER	CHAR*8	ARRAY	300	301			

PROCEDURE MAP

--NAME-----TYPE-----CLASS-----REFERENCES D=STMT FN DEF, A=ARGLIST

DEFALT		SUBROUTINE	335				
DEPEND		SUBROUTINE	340				
IOQ		SUBROUTINE	324	332			
POLINP		SUBROUTINE	341	342	343	344	

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00001 SUBROUTINE IOQ (LU, KOP, J, * , *)
C-----
C PURPOSE
C UTILITY SUBROUTINE TO SKIP, READ, OR WRITE MODEL HISTORY RECORDS
C CALLED BY INPUT, AND TWRITE ONLY
C USAGE
C
C ARGUMENTS   DESCRIPTION
C LU          LOGICAL UNIT ON WHICH TO DO INPUT/OUTPUT
C KOP         CODE OF OPERATION TO PERFORM
C             (0 TO SKIP, 1 TO READ, 2 TO WRITE)
C J           LATITUDE BAND NUMBER
C             (0 FOR HEADER RECORD, NEGATIVE FOR ALL DATA RECORDS)
C *           EOF RETURN
C             ERROR RETURN
C
C SUBPROGRAMS NEEDED
C NAME        DESCRIPTION
C             NONE
C
C RECORD OF MODIFICATIONS
C BASED ON OLD VERSION 8.
C
C      ?DATE?      ?PROGRAMMER?  ?DESCRIPTION OF MODIFICATIONS?
C      05/19/83    RAMESH        THIS PART AND COMMENTS
C
C REMARKS:
C ( 1 ) ?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.?
C-----
C M / A - C O M S I G M A   D A T A   I N C .   N A S A   -   G S F C
C-----
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C-----
00002 COMMON /CCNTRL/ CC0
00003 COMMON /CCNTRL/ ADATE
00004 COMMON /CCNTRL/ ATIME
00005 COMMON /CCNTRL/ JIC
00006 COMMON /CCNTRL/ JOB
00007 COMMON /CCNTRL/ CCSP06
00008 COMMON /CCNTRL/ CCSP07
00009 COMMON /CCNTRL/ CCSP08
00010 COMMON /CCNTRL/ VER
00011 COMMON /CCNTRL/ XLABEL (10)
00012 COMMON /CCNTRL/ CQS (30)
00013 COMMON /CCNTRL/ CQU (10)
C
00014 EQUIVALENCE (CC0,CC(1))
00015 CHARACTER*8 CC0, CC(200)
00016 CHARACTER*8 ADATE
00017 CHARACTER*8 ATIME
00018 CHARACTER*8 JIC
00019 CHARACTER*8 JOB
00020 CHARACTER*8 CCSP06
00021 CHARACTER*8 CCSP07
00022 CHARACTER*8 CCSP08
00023 CHARACTER*8 VER
00024 CHARACTER*8 XLABEL
C
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C-----
00025 COMMON /ICNTRL/ IC0
00026 COMMON /ICNTRL/ IM
00027 COMMON /ICNTRL/ IMD2
00028 COMMON /ICNTRL/ IMD2P1
00029 COMMON /ICNTRL/ NDRSW
00030 COMMON /ICNTRL/ JM
00031 COMMON /ICNTRL/ JMD2
00032 COMMON /ICNTRL/ JMT2
00033 COMMON /ICNTRL/ JNP

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SIOQ 2
SIOQ 3
SIOQ 4
SIOQ 5
SIOQ 6
SIOQ 7
SIOQ 8
SIOQ 9
SIOQ 10
SIOQ 11
SIOQ 12
SIOQ 13
SIOQ 14
SIOQ 15
SIOQ 16
SIOQ 17
SIOQ 18
SIOQ 19
SIOQ 20
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SIOQ 22
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SIOQ 24
SIOQ 25
SIOQ 26
SIOQ 27
SIOQ 28
SIOQ 29
SIOQ 30
SIOQ 31
SIOQ 32
SIOQ 33
SCNTRL 2
SCNTRL 3
SCNTRL 4
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SCNTRL 38
SCNTRL 39
SCNTRL 40

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00034	COMMON /ICNTRL/ JO4	SCNTRL 41
00035	COMMON /ICNTRL/ JO8	SCNTRL 42
00036	COMMON /ICNTRL/ JSP	SCNTRL 43
00037	COMMON /ICNTRL/ KLIALB	SCNTRL 44
00038	COMMON /ICNTRL/ KLIGW	SCNTRL 45
00039	COMMON /ICNTRL/ KLISST	SCNTRL 46
00040	COMMON /ICNTRL/ KS	SCNTRL 47
00041	COMMON /ICNTRL/ KU	SCNTRL 48
00042	COMMON /ICNTRL/ LOGBR	SCNTRL 49
00043	COMMON /ICNTRL/ MATIN	SCNTRL 50
00044	COMMON /ICNTRL/ MATSNX	SCNTRL 51
00045	COMMON /ICNTRL/ MATSUN	SCNTRL 52
00046	COMMON /ICNTRL/ MLF (12)	SCNTRL 53
00047	COMMON /ICNTRL/ MROD	SCNTRL 54
00048	COMMON /ICNTRL/ MKRSH	SCNTRL 55
00049	COMMON /ICNTRL/ MSM	SCNTRL 56
00050	COMMON /ICNTRL/ NB	SCNTRL 57
00051	COMMON /ICNTRL/ ND	SCNTRL 58
00052	COMMON /ICNTRL/ NDALT	SCNTRL 59
00053	COMMON /ICNTRL/ NDAY	SCNTRL 60
00054	COMMON /ICNTRL/ NDOUT	SCNTRL 61
00055	COMMON /ICNTRL/ NDPHY	SCNTRL 62
00056	COMMON /ICNTRL/ NDSHF	SCNTRL 63
00057	COMMON /ICNTRL/ NDT	SCNTRL 64
00058	COMMON /ICNTRL/ NHMS	SCNTRL 65
00059	COMMON /ICNTRL/ NHMSE	SCNTRL 66
00060	COMMON /ICNTRL/ NHMSO	SCNTRL 67
00061	COMMON /ICNTRL/ NLAY	SCNTRL 68
00062	COMMON /ICNTRL/ NLAYM1	SCNTRL 69
00063	COMMON /ICNTRL/ NLAYP1	SCNTRL 70
00064	COMMON /ICNTRL/ NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
C		SCNTRL 84
00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 85
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 86
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 87
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 88
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 89
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 91
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 92
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 93
00086	EQUIVALENCE (IICLOUD ,IQS(10))	SCNTRL 94
C		SCNTRL 95
00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 96
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 97
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 98
C		SCNTRL 99
00090	EQUIVALENCE (IC0,IC(1))	SCNTRL 100
00091	INTEGER IC0, IC(200)	SCNTRL 101
C		SCNTRL 102
C LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD		SCNTRL 103
C =====		SCNTRL 104
C		SCNTRL 105
00092	COMMON /LCNTRL/ LCO	SCNTRL 106
00093	COMMON /LCNTRL/ QALT	SCNTRL 107
00094	COMMON /LCNTRL/ QBEG	SCNTRL 108
00095	COMMON /LCNTRL/ QDAY	SCNTRL 109
00096	COMMON /LCNTRL/ QEND	SCNTRL 110
00097	COMMON /LCNTRL/ QOUT	SCNTRL 111
00098	COMMON /LCNTRL/ QPHY	

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00099	COMMON /LCNTRL/ QSHF	SCNTRL 112
00100	COMMON /LCNTRL/ SN2FLG	SCNTRL 113
00101	COMMON /LCNTRL/ QRSW	SCNTRL 114
00102	COMMON /LCNTRL/ QRSH	SCNTRL 115
00103	COMMON /LCNTRL/ LQS(30)	SCNTRL 116
00104	COMMON /LCNTRL/ LQU(10)	SCNTRL 117
	C	SCNTRL 118
00105	EQUIVALENCE (LTMIN .LQS(1))	SCNTRL 119
00106	EQUIVALENCE (LTMAX .LQS(2))	SCNTRL 120
00107	EQUIVALENCE (LPREACC .LQS(3))	SCNTRL 121
00108	EQUIVALENCE (LPRECON .LQS(4))	SCNTRL 122
00109	EQUIVALENCE (LHFLUX .LQS(5))	SCNTRL 123
00110	EQUIVALENCE (LEFLUX .LQS(6))	SCNTRL 124
00111	EQUIVALENCE (LFUSION .LQS(7))	SCNTRL 125
00112	EQUIVALENCE (LRADSWG .LQS(8))	SCNTRL 126
00113	EQUIVALENCE (LRADLWG .LQS(9))	SCNTRL 127
00114	EQUIVALENCE (LICLOUD .LQS(10))	SCNTRL 128
	C	SCNTRL 129
00115	EQUIVALENCE (LOMEGA .LQU(1))	SCNTRL 130
00116	EQUIVALENCE (LDIABAT .LQU(2))	SCNTRL 131
00117	EQUIVALENCE (LRADSW .LQU(3))	SCNTRL 132
	C	SCNTRL 133
00118	LOGICAL QALT	SCNTRL 134
00119	LOGICAL QBEG	SCNTRL 135
00120	LOGICAL QDAY	SCNTRL 136
00121	LOGICAL QEND	SCNTRL 137
00122	LOGICAL QOUT	SCNTRL 138
00123	LOGICAL QPHY	SCNTRL 139
00124	LOGICAL QSHF	SCNTRL 140
00125	LOGICAL SN2FLG	SCNTRL 141
00126	LOGICAL QRSW	SCNTRL 142
00127	LOGICAL QRSH	SCNTRL 143
	C	SCNTRL 144
00128	LOGICAL LQS	SCNTRL 145
00129	LOGICAL LQU	SCNTRL 146
00130	LOGICAL LTMIN	SCNTRL 147
00131	LOGICAL LTMAX	SCNTRL 148
00132	LOGICAL LPREACC	SCNTRL 149
00133	LOGICAL LPRECON	SCNTRL 150
00134	LOGICAL LHFLUX	SCNTRL 151
00135	LOGICAL LEFLUX	SCNTRL 152
00136	LOGICAL LFUSION	SCNTRL 153
00137	LOGICAL LRADSWG	SCNTRL 154
00138	LOGICAL LRADLWG	SCNTRL 155
00139	LOGICAL LICLOUD	SCNTRL 156
	C	SCNTRL 157
00140	LOGICAL LOMEGA	SCNTRL 158
00141	LOGICAL LDIABAT	SCNTRL 159
00142	LOGICAL LRADSW	SCNTRL 160
	C	SCNTRL 161
00143	EQUIVALENCE (LC0,LC(1))	SCNTRL 162
00144	LOGICAL LC0, LC(200)	SCNTRL 163
	C	SCNTRL 164
	C	SCNTRL 165
	C	SCNTRL 166
	C	SCNTRL 167
	C	SCNTRL 168
	C	SCNTRL 169
	C	SCNTRL 170
	C	SCNTRL 171
	C	SCNTRL 172
	C	SCNTRL 173
	C	SCNTRL 174
	C	SCNTRL 175
	C	SCNTRL 176
	C	SCNTRL 177
	C	SCNTRL 178
	C	SCNTRL 179
	C	SCNTRL 180
	C	SCNTRL 181
	C	SCNTRL 182
00145	COMMON /RCNTRL/ RCO	
00146	COMMON /RCNTRL/ APHEL	
00147	COMMON /RCNTRL/ BETA	
00148	COMMON /RCNTRL/ COSD	
00149	COMMON /RCNTRL/ CP	
00150	COMMON /RCNTRL/ DAYSPY	
00151	COMMON /RCNTRL/ DEC	
00152	COMMON /RCNTRL/ DECMAX	
00153	COMMON /RCNTRL/ DIST	
00154	COMMON /RCNTRL/ DLAT	
00155	COMMON /RCNTRL/ DLON	
00156	COMMON /RCNTRL/ DT	
00157	COMMON /RCNTRL/ ECCN	
00158	COMMON /RCNTRL/ GNU1	
00159	COMMON /RCNTRL/ GNU2	
00160	COMMON /RCNTRL/ GRAV	

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00161	COMMON /RCNTRL/ OMEGA2	SCNTRL 183
00162	COMMON /RCNTRL/ PI	SCNTRL 184
00163	COMMON /RCNTRL/ PI180	SCNTRL 185
00164	COMMON /RCNTRL/ PI2	SCNTRL 186
00165	COMMON /RCNTRL/ PSTD	SCNTRL 187
00166	COMMON /RCNTRL/ PIMEAN	SCNTRL 188
00167	COMMON /RCNTRL/ PS MAX	SCNTRL 189
00168	COMMON /RCNTRL/ PS MIN	SCNTRL 190
00169	COMMON /RCNTRL/ PTOP	SCNTRL 191
00170	COMMON /RCNTRL/ RADE	SCNTRL 192
00171	COMMON /RCNTRL/ RGAS	SCNTRL 193
00172	COMMON /RCNTRL/ ROCP	SCNTRL 194
00173	COMMON /RCNTRL/ RSDIST	SCNTRL 195
00174	COMMON /RCNTRL/ SDAY	SCNTRL 196
00175	COMMON /RCNTRL/ SEASON	SCNTRL 197
00176	COMMON /RCNTRL/ SIGE (25)	SCNTRL 198
00177	COMMON /RCNTRL/ SIND	SCNTRL 199
00178	COMMON /RCNTRL/ SOLS	SCNTRL 200
00179	COMMON /RCNTRL/ TSTD	SCNTRL 201
00180	COMMON /RCNTRL/ PLEVS (25)	SCNTRL 202
00181	COMMON /RCNTRL/ H2ATW	SCNTRL 203
00182	COMMON /RCNTRL/ HEATI	SCNTRL 204
00183	COMMON /RCNTRL/ EPS	SCNTRL 205
00184	COMMON /RCNTRL/ EPSFAC	SCNTRL 206
00185	COMMON /RCNTRL/ CALTOJ	SCNTRL 207
00186	COMMON /RCNTRL/ PZERO	SCNTRL 208
00187	C EQUIVALENCE (RCO, RC(1))	SCNTRL 209
00188	REAL RCO, RC(200)	SCNTRL 210
	C	SCNTRL 211
	C	SCNTRL 212
	C INTEGER MODEL CONSTANTS	SCNTRL 213
	C =====	SCNTRL 214
00189	COMMON /IDPARM/ IJUMP (46)	SCNTRL 215
00190	COMMON /IDPARM/ IDSP02	SCNTRL 216
00191	COMMON /IDPARM/ INDEX (72)	SCNTRL 217
00192	COMMON /IDPARM/ IROD	SCNTRL 218
00193	COMMON /IDPARM/ JC (46)	SCNTRL 219
00194	COMMON /IDPARM/ JE (2)	SCNTRL 220
00195	COMMON /IDPARM/ JP (2,2)	SCNTRL 221
00196	COMMON /IDPARM/ KSTEP	SCNTRL 222
00197	COMMON /IDPARM/ MJ (46)	SCNTRL 223
00198	COMMON /IDPARM/ NHMS1	SCNTRL 224
00199	COMMON /IDPARM/ NYMD1	SCNTRL 225
	C	SCNTRL 226
	C	SCNTRL 227
	C LOGICAL MODEL CONSTANTS	SCNTRL 228
	C =====	SCNTRL 229
00200	COMMON /LDPARM/ FILTER (46)	SCNTRL 230
00201	COMMON /LDPARM/ ITAPE	SCNTRL 231
00202	COMMON /LDPARM/ START	SCNTRL 232
	C	SCNTRL 233
00203	LOGICAL FILTER	SCNTRL 234
00204	LOGICAL ITAPE	SCNTRL 235
00205	LOGICAL START	SCNTRL 236
	C	SCNTRL 237
	C	SCNTRL 238
	C REAL MODEL CONSTANTS	SCNTRL 239
	C =====	SCNTRL 240
00206	COMMON /RDPARM/ ADLDP	SCNTRL 241
00207	COMMON /RDPARM/ CON1	SCNTRL 242
00208	COMMON /RDPARM/ CON1DT	SCNTRL 243
00209	COMMON /RDPARM/ CON2	SCNTRL 244
00210	COMMON /RDPARM/ CON2DT	SCNTRL 245
00211	COMMON /RDPARM/ CON3	SCNTRL 246
00212	COMMON /RDPARM/ CON3DT	SCNTRL 247
00213	COMMON /RDPARM/ CON4	SCNTRL 248
00214	COMMON /RDPARM/ CON4DT	SCNTRL 249
00215	COMMON /RDPARM/ CON5	SCNTRL 250
00216	COMMON /RDPARM/ COSL (46)	SCNTRL 251
00217	COMMON /RDPARM/ COSLON (72)	SCNTRL 252
00218	COMMON /RDPARM/ CPD2	SCNTRL 253
00219	COMMON /RDPARM/ DXP (46)	
00220	COMMON /RDPARM/ DXYP (46)	

00221 COMMON /RDPARM/ DYP (46)
 00222 COMMON /RDPARM/ FCORLS (46)
 00223 COMMON /RDPARM/ F1DT
 00224 COMMON /RDPARM/ F2DT
 00225 COMMON /RDPARM/ H1DT
 00226 COMMON /RDPARM/ H2DT
 00227 COMMON /RDPARM/ PKSTD
 00228 COMMON /RDPARM/ PKTOP
 00229 COMMON /RDPARM/ RLAT (46)
 00230 COMMON /RDPARM/ RLATD (46)
 00231 COMMON /RDPARM/ ROCPT
 00232 COMMON /RDPARM/ ROCPPI
 00233 COMMON /RDPARM/ SGNP (2)
 00234 COMMON /RDPARM/ SINL (46)
 00235 COMMON /RDPARM/ SINLON (72)
 00236 COMMON /RDPARM/ THSTD
 00237 COMMON /RDPARM/ THSTD2
 00238 COMMON /RDPARM/ WSAVE (159)
 00239 COMMON /RDPARM/ DSIG (9)
 00240 COMMON /RDPARM/ SIG (9)

C
 C * * *
 C IDENTIFYING LABELS OF MODEL HISTORY RECORD QUANTITIES

00241 COMMON /CORDER/ XORDS(19), XORDU(14)
 00242 CHARACTER*8 XORDS, XORDU

C * * *
 C GLOBAL MODEL SURFACE FIELDS

00243 COMMON /QANDQT/ QS(72,19,46)

C
 DIMENSION PHIS(1368,1)
 DIMENSION SMTH(1368,23)
 DIMENSION ALBEDO(1368,1)
 DIMENSION GT(1368,1)
 DIMENSION GW(1368,1)
 DIMENSION TS(1368,1)
 DIMENSION SHS(1368,1)
 DIMENSION P(72,19,1)
 DIMENSION TMIN(1368,1)
 DIMENSION TMAX(1368,1)
 DIMENSION PREACC(1368,1)
 DIMENSION PRECON(1368,1)
 DIMENSION HFLUX(1368,1)
 DIMENSION EFLUX(1368,1)
 DIMENSION FUSION(1368,1)
 DIMENSION RADSWG(1368,1)
 DIMENSION RADLWG(1368,1)
 DIMENSION ICLOUD(1368,1)

C
 EQUIVALENCE (QS(1,1,1),PHIS(1,1))
 EQUIVALENCE (QS(1,2,1),SMTH(1,1))
 EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))
 EQUIVALENCE (QS(1,4,1),GT(1,1))
 EQUIVALENCE (QS(1,5,1),GW(1,1))
 EQUIVALENCE (QS(1,6,1),TS(1,1))
 EQUIVALENCE (QS(1,7,1),SHS(1,1))
 EQUIVALENCE (QS(1,8,1),P(1,1,1))
 EQUIVALENCE (QS(1,10,1),TMIN(1,1))
 EQUIVALENCE (QS(1,11,1),TMAX(1,1))
 EQUIVALENCE (QS(1,12,1),PREACC(1,1))
 EQUIVALENCE (QS(1,13,1),PRECON(1,1))
 EQUIVALENCE (QS(1,14,1),HFLUX(1,1))
 EQUIVALENCE (QS(1,15,1),EFLUX(1,1))
 EQUIVALENCE (QS(1,16,1),FUSION(1,1))
 EQUIVALENCE (QS(1,17,1),RADSWG(1,1))
 EQUIVALENCE (QS(1,18,1),RADLWG(1,1))
 EQUIVALENCE (QS(1,19,1),ICLOUD(1,1))

C * * *
 C GLOBAL MODEL UPPER-AIR FIELDS

00280 COMMON /QANDQT/ QU(72,9,14,46)

C
 DIMENSION U(72,9,14,1)

SCNTRL 254
 SCNTRL 255
 SCNTRL 256
 SCNTRL 257
 SCNTRL 258
 SCNTRL 259
 SCNTRL 260
 SCNTRL 261
 SCNTRL 262
 SCNTRL 263
 SCNTRL 264
 SCNTRL 265
 SCNTRL 266
 SCNTRL 267
 SCNTRL 268
 SCNTRL 269
 SCNTRL 270
 SCNTRL 271
 SCNTRL 272
 SCNTRL 273
 SCNTRL 274
 SCORDER 2
 SCORDER 3
 SCORDER 4
 SCORDER 5
 SQANDQT 2
 SQANDQT 3
 SQANDQT 4
 SQANDQT 5
 SQANDQT 6
 SQANDQT 7
 SQANDQT 8
 SQANDQT 9
 SQANDQT 10
 SQANDQT 11
 SQANDQT 12
 SQANDQT 13
 SQANDQT 14
 SQANDQT 15
 SQANDQT 16
 SQANDQT 17
 SQANDQT 18
 SQANDQT 19
 SQANDQT 20
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 SQANDQT 26
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 SQANDQT 30
 SQANDQT 31
 SQANDQT 32
 SQANDQT 33
 SQANDQT 34
 SQANDQT 35
 SQANDQT 36
 SQANDQT 37
 SQANDQT 38
 SQANDQT 39
 SQANDQT 40
 SQANDQT 41
 SQANDQT 42
 SQANDQT 43
 SQANDQT 44
 SQANDQT 45
 SQANDQT 46
 SQANDQT 47

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				47	48	49	50	51	52	53	54	55	56	57
				58	59	60	61	62	63	64	65	66	67	68
				69	70	71	72	73	74	75	76			
ICSP53	ICNTRL	INTEGER	SIMPLE	66										
ICSP55	ICNTRL	INTEGER	SIMPLE	68										
IDIABAT	ICNTRL	INTEGER	UNKNOWN	88										
IDPARM	IDPARM	INTEGER	UNKNOWN	189	190	191	192	193	194	195	196	197	198	199
IDSP02	IDPARM	INTEGER	SIMPLE	190										
IEFLUX	ICNTRL	INTEGER	UNKNOWN	82										
IFUSION	ICNTRL	INTEGER	UNKNOWN	83										
IHFLUX	ICNTRL	INTEGER	UNKNOWN	81										
IICLOUD	ICNTRL	INTEGER	UNKNOWN	86										
IJUMP	IDPARM	INTEGER	ARRAY	189										
IM	ICNTRL	INTEGER	SIMPLE	26	301	302								
IMD2	ICNTRL	INTEGER	SIMPLE	27										
IMD2P1	ICNTRL	INTEGER	SIMPLE	28										
INDEX	IDPARM	INTEGER	ARRAY	191										
IOMEGA	ICNTRL	INTEGER	UNKNOWN	87										
IOQ			SUBROUTINE	1										
IPREACC	ICNTRL	INTEGER	UNKNOWN	79										
IPRECON	ICNTRL	INTEGER	UNKNOWN	80										
IQS	ICNTRL	INTEGER	ARRAY	75	77	78	79	80	81	82	83	84	85	86
IQU	ICNTRL	INTEGER	ARRAY	76	87	88	89							
IRADLWG	ICNTRL	INTEGER	UNKNOWN	85										
IRADSW	ICNTRL	INTEGER	UNKNOWN	89										
IRADSWG	ICNTRL	INTEGER	UNKNOWN	84										
IRECS		INTEGER	SIMPLE	301/S										
IREFU		INTEGER	SIMPLE	302/S	325	329	338	342						
IROD	IDPARM	INTEGER	SIMPLE	192										
ITAPE	IDPARM	LOGICAL	SIMPLE	201	204									
ITMAX	ICNTRL	INTEGER	UNKNOWN	78										
ITMIN	ICNTRL	INTEGER	UNKNOWN	77										
J		INTEGER	SIMPLE	1	307	320	325	325	333	338	338			
JC	IDPARM	INTEGER	ARRAY	193										
JE	IDPARM	INTEGER	ARRAY	194										
JIC	CONTRL	CHAR*8	SIMPLE	5	18									
JJ		INTEGER	SIMPLE	315/C	328/C	329	329	341/C	342	342				
JM	ICNTRL	INTEGER	SIMPLE	30	300									
JMD2	ICNTRL	INTEGER	SIMPLE	31										
JMP1		INTEGER	SIMPLE	300/S	315	328	341							
JMT2	ICNTRL	INTEGER	SIMPLE	32										
JNP	ICNTRL	INTEGER	SIMPLE	33										
JO4	ICNTRL	INTEGER	SIMPLE	34										
JO8	ICNTRL	INTEGER	SIMPLE	35										
JO8	CONTRL	CHAR*8	SIMPLE	6	19									
JP	IDPARM	INTEGER	ARRAY	195										
JSP	ICNTRL	INTEGER	SIMPLE	36										
K		INTEGER	SIMPLE	322	322/C	322/C	335	335/C	335/C					
KLIALB	ICNTRL	INTEGER	SIMPLE	37										
KLIW	ICNTRL	INTEGER	SIMPLE	38										
KLISS	ICNTRL	INTEGER	SIMPLE	39										
KOP		INTEGER	SIMPLE	1	303									
KOP1		INTEGER	SIMPLE	303/S	304									
KS	ICNTRL	INTEGER	SIMPLE	40	301									
KSTEP	IDPARM	INTEGER	SIMPLE	196										
KU	ICNTRL	INTEGER	SIMPLE	41	302	322	335							
LC	CONTRL	LOGICAL	ARRAY	143	144	322/R	335/W							
LC0	CONTRL	LOGICAL	SIMPLE	92	143	144								
LCNTRL		INTEGER	UNKNOWN	92	93	94	95	96	97	98	99	100	101	102
				103	104									
LDIABAT	CONTRL	LOGICAL	UNKNOWN	116	141									
LDPARM		INTEGER	UNKNOWN	200	201	202								
LEFLUX	CONTRL	LOGICAL	UNKNOWN	110	135									
LFUSION	CONTRL	LOGICAL	UNKNOWN	111	136									
LHFLUX	CONTRL	LOGICAL	UNKNOWN	109	134									
LICLOUD	CONTRL	LOGICAL	UNKNOWN	114	139									
LOGBR	ICNTRL	INTEGER	SIMPLE	42										
LOMEGA	CONTRL	LOGICAL	UNKNOWN	115	140									
LPREACC	CONTRL	LOGICAL	UNKNOWN	107	132									
LPRECON	CONTRL	LOGICAL	UNKNOWN	108	133									

LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114
LQU	LCNTRL	LOGICAL	ARRAY	128										
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	104	115	116	117	129						
LRADSW	LCNTRL	LOGICAL	UNKNOWN	113	138									
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	117	142									
LTMAX	LCNTRL	LOGICAL	UNKNOWN	112	137									
LTMIN	LCNTRL	LOGICAL	UNKNOWN	106	131									
LU	LCNTRL	LOGICAL	UNKNOWN	105	130									
MATIN	ICNTRL	INTEGER	SIMPLE	1	309	312	316	322	325	329	335	338	342	
MATSNX	ICNTRL	INTEGER	SIMPLE	43										
				44										
MATSUN	ICNTRL	INTEGER	SIMPLE	45										
MJ	IDPARM	INTEGER	ARRAY	197										
MLF	ICNTRL	INTEGER	ARRAY	46										
MROD	ICNTRL	INTEGER	SIMPLE	47										
MSM	ICNTRL	INTEGER	SIMPLE	49										
NB	ICNTRL	INTEGER	SIMPLE	50										
ND	ICNTRL	INTEGER	SIMPLE	51										
NDALT	ICNTRL	INTEGER	SIMPLE	52										
NDAY	ICNTRL	INTEGER	SIMPLE	53										
NDHOG	ICNTRL	INTEGER	SIMPLE	74										
NDOUT	ICNTRL	INTEGER	SIMPLE	54										
NDPHY	ICNTRL	INTEGER	SIMPLE	55										
NDRSW	ICNTRL	INTEGER	SIMPLE	29										
NDSHF	ICNTRL	INTEGER	SIMPLE	56										
NDT	ICNTRL	INTEGER	SIMPLE	57										
NHMS	ICNTRL	INTEGER	SIMPLE	58										
NHMSO	ICNTRL	INTEGER	SIMPLE	60										
NHMS1	IDPARM	INTEGER	SIMPLE	198										
NHMS2	ICNTRL	INTEGER	SIMPLE	59										
NKRSH	ICNTRL	INTEGER	SIMPLE	48										
NLAY	ICNTRL	INTEGER	SIMPLE	61	302									
NLAYM1	ICNTRL	INTEGER	SIMPLE	62										
NLAYP1	ICNTRL	INTEGER	SIMPLE	63										
NMLEV	ICNTRL	INTEGER	SIMPLE	73										
NSDAY	ICNTRL	INTEGER	SIMPLE	64										
NSEQ	ICNTRL	INTEGER	SIMPLE	65										
NSTEP	ICNTRL	INTEGER	SIMPLE	67										
NYMD	ICNTRL	INTEGER	SIMPLE	69										
NYMDO	ICNTRL	INTEGER	SIMPLE	71										
NYMD1	IDPARM	INTEGER	SIMPLE	199										
NYMDE	ICNTRL	INTEGER	SIMPLE	70										
NZINIT	ICNTRL	INTEGER	SIMPLE	72										
OMEGA	QANDQT	REAL	ARRAY	286	295									
OMEGA2	RCNTRL	REAL	SIMPLE	161										
P	QANDQT	REAL	ARRAY	251	269									
PHI	QANDQT	REAL	ARRAY	285	294									
PHIS	QANDQT	REAL	ARRAY	244	262									
PI	RCNTRL	REAL	SIMPLE	162										
PI180	RCNTRL	REAL	SIMPLE	163										
PI2	RCNTRL	REAL	SIMPLE	164										
PMEAN	RCNTRL	REAL	SIMPLE	166										
PKSTD	RDPARM	REAL	SIMPLE	227										
PKTOP	RDPARM	REAL	SIMPLE	228										
PLEVS	RCNTRL	REAL	ARRAY	180										
PREACC	QANDQT	REAL	ARRAY	254	272									
PRECON	QANDQT	REAL	ARRAY	255	273									
PSMAX	RCNTRL	REAL	SIMPLE	167										
PSMIN	RCNTRL	REAL	SIMPLE	168										
PSTD	RCNTRL	REAL	SIMPLE	165										
PTOP	RCNTRL	REAL	SIMPLE	169										
PZERO.	RCNTRL	REAL	SIMPLE	186										
QALT	LCNTRL	LOGICAL	SIMPLE	93	118									
QANDQT		REAL	UNKNOWN	243	280									
QBEG	LCNTRL	LOGICAL	SIMPLE	94	119									
QDAY	LCNTRL	LOGICAL	SIMPLE	95	120									
QEND	LCNTRL	LOGICAL	SIMPLE	96	121									
QOUT	LCNTRL	LOGICAL	SIMPLE	97	122									
QPHY	LCNTRL	LOGICAL	SIMPLE	98	123									
QRSH	LCNTRL	LOGICAL	SIMPLE	102	127									

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QRSW	LCNTRL	LOGICAL	SIMPLE	101	126													
QS	QANDQT	REAL	ARRAY	243	262	263	264	265	266	267	268	269	270	271				
				272	273	274	275	276	277	278	279	325/R	329/R	338				
				342/W														
QSHF	LCNTRL	LOGICAL	SIMPLE	99	124													
QU	QANDQT	REAL	ARRAY	280	290	291	292	293	294	295	296	297	298	325				
				329/R	338/W	342/W												
RADE	RCNTRL	REAL	SIMPLE	170														
RADLW	QANDQT	REAL	ARRAY	289	298													
RADLWG	QANDQT	REAL	ARRAY	260	278													
RADSW	QANDQT	REAL	ARRAY	288	297													
RADSWG	QANDQT	REAL	ARRAY	259	277													
RC	RCNTRL	REAL	ARRAY	187	188	322/R	335/W											
RCO	RCNTRL	REAL	SIMPLE	145	187													
RCNTRL	RCNTRL	REAL	UNKNOWN	145	146	147	148	149	150	151	152	153	154	155				
				156	157	158	159	160	161	162	163	164	165	166				
				167	168	169	170	171	172	173	174	175	176	177				
				178	179	180	181	182	183	184	185	186						
RDPARM		REAL	UNKNOWN	206	207	208	209	210	211	212	213	214	215	216				
				217	218	219	220	221	222	223	224	225	226	227				
				228	229	230	231	232	233	234	235	236	237	238				
				239	240													
RGAS	RCNTRL	REAL	SIMPLE	171														
RLAT	RDPARM	REAL	ARRAY	229														
RLATD	RDPARM	REAL	ARRAY	230														
ROCP	RCNTRL	REAL	SIMPLE	172														
ROCPDT	RDPARM	REAL	SIMPLE	231														
ROCPP1	RDPARM	REAL	SIMPLE	232														
RSDIST	RCNTRL	REAL	SIMPLE	173														
SDAY	RCNTRL	REAL	SIMPLE	174														
SEASON	RCNTRL	REAL	SIMPLE	175														
SGNP	RDPARM	REAL	ARRAY	233														
SH	QANDQT	REAL	ARRAY	284	293													
SHS	QANDQT	REAL	ARRAY	250	268													
SIG	RDPARM	REAL	ARRAY	240														
SIGE	RCNTRL	REAL	ARRAY	176														
SIND	RCNTRL	REAL	SIMPLE	177														
SINL	RDPARM	REAL	ARRAY	234														
SINLON	RDPARM	REAL	ARRAY	235														
SMTH	QANDQT	REAL	ARRAY	245	263													
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125													
SOLS	RCNTRL	REAL	SIMPLE	178														
START	LDPARM	LOGICAL	SIMPLE	202	205													
T	QANDQT	REAL	ARRAY	283	292													
THSTD	RDPARM	REAL	SIMPLE	236														
THSTD2	RDPARM	REAL	SIMPLE	237														
TMAX	QANDQT	REAL	ARRAY	253	271													
TMIN	QANDQT	REAL	ARRAY	252	270													
TS	QANDQT	REAL	ARRAY	249	267													
TSTD	RCNTRL	REAL	SIMPLE	179														
U	QANDQT	REAL	ARRAY	281	290													
V	QANDQT	REAL	ARRAY	282	291													
VER	CCNTRL	CHAR*8	SIMPLE	10	23													
WSAVE	RDPARM	REAL	ARRAY	238														
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24													
XORDS	CORDER	CHAR*8	ARRAY	241	242	322/R	335/W											
XORDU	CORDER	CHAR*8	ARRAY	241	242	322/R	335/W											

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00001      SUBROUTINE LINKHO(LLAY,NFLW,IDAY,LATD,JNP,IBB)
C
C  RADIATION AND SOURCE TERM FIELDS
00002      COMMON /RADCOM/ AS(72,9), RE(72,10)
00003      COMMON /RADCOM/ PL(72,9), PLE(72,10)
00004      COMMON /RADCOM/ PLK(72,9), PLKE(10)
00005      COMMON /RADCOM/ TL(72,9), TLE(72,10)
00006      COMMON /RADCOM/ TG(72), TH(72,9)
00007      COMMON /RADCOM/ SHL(72,9), SHLE(72,10)
00008      COMMON /RADCOM/ SHG(72), CLOUD(72,12)
00009      COMMON /RADCOM/ SHSAT(72,9), GAM(72,9)
00010      COMMON /RADCOM/ RH(72,9)
00011      COMMON /RADCOM/ SSS(72,9), SSSE(72,10)
00012      COMMON /RADCOM/ HH(72,9), HHE(72,10)
00013      COMMON /RADCOM/ HHS(72,9)
00014      COMMON /RADCOM/ CVT(72,9), CVQ(72,9)
00015      COMMON /RADCOM/ CXDE(9)
00016      COMMON /RADCOM/ SWALE(72,10), SWIL(72,9)
00017      COMMON /RADCOM/ AL(72,10)
00018      COMMON /RADCOM/ TAU(72,10), OZALE(72,10)
00019      COMMON /RADCOM/ TOPABS(72)
00020      COMMON /RADCOM/ RN(9), TN(9), SRS(9), STN(9)
00021      COMMON /RADCOM/ TCOND(9), TPENE(9)
00022      COMMON /RADCOM/ TLOWL,TMIDL,NLAYOZ
00023      COMMON /RADCOM/ FK(5), XK(5), NFK
00024      COMMON /RADCOM/ OLJAN(19), OLAPR(19), OLJUL(19), OLOCT(19)
00025      COMMON /RADCOM/ OCM22(23), OCM30(23), OCM38(23), OCM46(23)
00026      COMMON /RADCOM/ PROCM(23), OCMXX(23), NOZ, TOTOZ(4), CDATE(6)
00027      COMMON /RADCOM/ CZH(72), WET(72), EVAP, PREP(72), WI(72)
00028      COMMON /RADCOM/ COSZ(72), SO, RADTRM(72), CXL
00029      COMMON /RADCOM/ SG(72), SP(72)
00030      COMMON /RADCOM/ RSURF(72), RCLD(72), JALB
00031      COMMON /RADCOM/ LAND(72), OCEAN(72), ICE(72)
00032      COMMON /RADCOM/ SNOW(72), MIXWI(72), FROST(72)
00033      LOGICAL LAND, OCEAN, ICE, SNOW, MIXWI, FROST
C
00034      DIMENSION TO3(19,19),TI1(19),TI2(19)
00035      DIMENSION TO1(19,5),TO2(19,5),TRO3(19,19,5)
00036      DIMENSION DP(19)
00037      DIMENSION G(2), CTINF(19,2),CTTRANS(19,19,2), C(10),CTIN(19,2),
1APRI(5), BPRI(5),X(10), CNUCUB(10),DELNU(10)
00038      DIMENSION BG(10), CM(19),BB(10),SS(10),WTRINF(19,10),
1TINF(19,10),IUP(9)
00039      DIMENSION CAPPSI(37,10),CONT(37),S(10,10),
1TRAD(21),R(19,19,11),P(37), PHI(37),W(37),VAR(19),
2 BB(21,11),SS(21,11),CAP(37,10), T(37),Q(37)
C
C  DATA
SS K, KJ, PH, AVI, NLE, TTT, SURFL, BB, PLE, TINF,
SS L, KK, PM, CMI, PDG, CAP1, SURFU, BG, SS1, TRAD,
SS M, LA, Q1, DP1, PDP, CAP2, TERM1, CM, TI1, TRO3,
SS N, LL, Q2, DP2, PDQ, CMI1, TERM2, DP, TI2, CTINF,
SS AG, L2, TS, III, PDT, NLEV, TRAD1, PL, TO1, CAPPSI,
SS AV, L3, TT, JJJ, SSB, PHII, IJTEST, SS, TO2, CTTRANS,
SS CG, NF, TI, JMI, SSD, TERM, P, BB1, TO3, WTRINF,
SS II, NK, T2, KKK, SUM, CONT1, Q, CAP, VAR, R,
SS IJ, NN, XX, LAY, TRB, CONT2, S, IUP, CONT,
SS JJ, PD, YY, NFL, TRD, LLLAY, T, PHI, CTIN,
S /9232*Z000000000/
C
00040      DATA APRI /0., 9.08,15.1,13.469,21.235/
00041      DATA BPRI /0., -38.1,-54.1,-120.,-74.94/
00042      DATA G /27.15,21.76/
00043      DATA C /1100.,217.0319,18.46318,1.49369,.086965,
1 .014317,1.8675,51.31344,350.0512,26.79471/
00044      DATA X /201.418,474.771,533.028,834.446,1050.25,
1 1438.7,1834.34,2014.18,2301.92,2733.53/
00045      DATA CNUCUB /102.658,1344.47,3186.9,7299.53,
1 14553.9,37412.,77542.8,102658.,153240.,256609./
00046      DATA DELNU /280.,100.,120.,160.,140.,400.,150.,
1 1100.,300.,300./

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00047 DATA GRNDP,P1,P2,XY,NFF/1.013E6,1.E3,5.E3,5.89527,10/
00048 DATA KURT/0/

COC
CALL ERRSET(207,256,-1,1,0,209)

00049 LAY=LLAY-1
00050 NF=5
00051 NFW=NFF
00052 NFL=NFW+1
00053 LA=LAY-1
00054 LLLAY=LLAY+1
00055 NLEV=LLAY*4+1
00056 NLE=NLEV-2
00057 L2=LLAY*2+1
00058 LL=L2+1
00059 L3=LL+1
00060 K=0
00061 DO 2555 I=1,LLAY
00062 IF(SHL(1BB,I).EQ.0.) SHL(1BB,I)=1.E-8
00063 PL(1BB,I)=PL(1BB,I)+1.E3
00064 PLE(1BB,I)=PLE(1BB,I)+1.E3
00065 IF(CLOUD(1BB,I).GT.0.) K=I
00066 2555 IUP(I)=K
00067 IF(SHG(1BB).EQ.0.) SHG(1BB)=1.E-8
00068 PLE(1BB,LLLAY)=PLE(1BB,LLLAY)+1.E3
00069 DP1=P2-P1
00070 DP2=PLE(1BB,I)-P2
00071 CALL STRATM(T1,T2,IDAY,LATD)
00072 DO 2324 J=1,LLAY
00073 JJ=2+J
00074 IJ=4+J
00075 DP(IJ-1)=- (PLE(1BB,J)-PL(1BB,J))/2.
00076 DP(IJ)=- (PL(1BB,J)-PLE(1BB,J+1))/2.
00077 P(IJ-3)=PLE(1BB,J)
00078 P(IJ-2)=PLE(1BB,J)+DP(IJ-1)
00079 P(IJ-1)=PL(1BB,J)
00080 P(IJ)=PL(1BB,J)+DP(IJ)
00081 PHI(IJ-1)=P(IJ-1)/GRNDP
00082 PHI(IJ-2)=P(IJ-2)/GRNDP
00083 PHI(IJ-3)=P(IJ-3)/GRNDP
00084 PHI(IJ)=P(IJ)/GRNDP
00085 2324 CONTINUE
00086 P(NLEV)=PLE(1BB,LLLAY)
00087 PHI(NLEV)=P(NLEV)/GRNDP
00088 IF(KURT.EQ.1) GO TO 9000
00089 DO 20 N=1,2
00090 DO 20 I=3,21
00091 READ(55,10) CTINF(I-2,N),CTINF(I-2,N),(CTTRANS(J-2,I-2,N),J=3,I)
00092 10 FORMAT(13F6.4)
00093 20 CONTINUE
00094 DO 80 N=1,2
00095 DO 80 I=1,L2
00096 DO 80 J=1,I
00097 80 CTRANS(I,J,N)=CTTRANS(J,I,N)
00098 DO 6 N=1,5
00099 READ(55,9)(TO1(I,N),I=1,L2)
00100 READ(55,9)(TO2(I,N),I=1,L2)
00101 DO 7 I=1,L2
00102 7 READ(55,9)(TRO3(I,J,N),J=1,L2)
00103 9 FORMAT(10F8.5)
00104 6 CONTINUE
00105 9000 KURT=1
00106 CALL OSINT(TO1,TO2,TRO3,TI1,TI2,TO3,JALB)
00107 CONT1=EXP(1745./TI1-XY)
00108 CONT2=EXP(1745./TI2-XY)
00109 TS=TL(1BB,LLLAY)
00110 DO 5354 I=1,3
00111 T(I)=TL(1BB,I)
00112 5354 CONTINUE
00113 DO 11 I=1,LAY
00114 IF(SHL(1BB,I+1).LE.1.E-8.OR. SHL(1BB,I).LE.1.E-8)GO TO 7777

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00115 PDQ= SHL(1BB,I)/SHL(1BB,I+1)
00116 GO TO 7778
00117 7777 PDQ=1.
00118 7778 CONTINUE
00119 PDT= TL(1BB,I+1)-TL(1BB,I)
00120 PDP=ALOG(PL(1BB,I)/PL(1BB,I+1))
00121 PD=PDT/PDP
00122 L=(2-I)*(LA-I)
00123 IF(L .LE. 0) GO TO 12
00124 M=2
00125 IF (1 .EQ. 1) M=3
00126 DO 13 K=1,M
00127 IF (1 .EQ. 1) GO TO 14
00128 JJ=NLE+K
00129 PDG=ALOG(P(JJ)/P(NLEV))
00130 AV=ALOG(P(NLE)/P(NLEV))
00131 T(JJ)=TS-(TS-TL(1BB,LLAY))*PDG/AV
00132 PDG=PDG/AV
00133 IF(SHG(1BB).LE.1.E-8)GO TO 1256
00134 Q(JJ)=SHG(1BB)*(SHL(1BB,LLAY)/SHG(1BB))*PDG
00135 GO TO 15
00136 14 JJ=4-K
00137 PDG=ALOG(P(JJ)/PL(1BB,I+1))/PDP
00138 IF(SHL(1BB,I).LE.1.E-8)GO TO 1256
00139 Q(JJ)=SHL(1BB,I+1)*PDQ**PDG
00140 IF(SHL(1BB,I+1).LE.1.E-8)Q(JJ)=SHL(1BB,I)
00141 15 CONTINUE
00142 TT=(T(JJ)-260.)*1.E-3
00143 TTT=TT*TT
00144 CONT(JJ)=EXP(1745./T(JJ)-XY)
00145 IF(Q(JJ).LE..00001) GO TO 1256
00146 CONT(JJ)=CONT(JJ)*Q(JJ)*PHI(JJ)*Q(JJ)
00147 GO TO 1257
00148 1256 CONTINUE
00149 CONT(JJ)=0.
00150 Q(JJ)=0.
00151 DO 1333 N=1,NFLW
00152 1333 CAP(JJ,N)=0.
00153 GO TO 18
00154 1257 CONTINUE
00155 DO 19 N=1,NFLW
00156 CAPPSI(JJ,N)=1.
00157 IF(N .GT. NF) GO TO 5859
00158 CAPPSI(JJ,N)=EXP(APRI(N)*TT+BPRI(N)*TTT)
00159 5859 CONTINUE
00160 CAP(JJ,N)=Q(JJ)*CAPPSI(JJ,N)*PHI(JJ)
00161 19 CONTINUE
00162 18 CONTINUE
00163 13 CONTINUE
00164 12 KJ=4-I-1
00165 DO 11 K=1,4
00166 JJ=KJ+K
00167 PDG=ALOG(P(JJ)/PL(1BB,I+1))
00168 T(JJ)=TL(1BB,I+1)-PDG*PD
00169 IF(SHL(1BB,I).LE.1.E-8.AND. SHL(1BB,I+1).LE.1.E-8) GO TO 4300
00170 IF(SHL(1BB,I).LE.1.E-8.AND. K .EQ. 1) GO TO 4300
00171 IF (SHL(1BB,I+1).LE.1.E-8.AND.K .GT. 2) GO TO 4300
00172 IF(SHL(1BB,I+1).LE.1.E-8.AND.K .LE. 2) GO TO 4302
00173 PDG=PDG/PDP
00174 Q(JJ)=SHL(1BB,I+1)*PDQ**PDG
00175 GO TO 4301
00176 4302 Q(JJ)=Q(JJ-1)
00177 4301 CONTINUE
00178 TT=(T(JJ)-260.)*1.E-3
00179 TTT=TT*TT
00180 CONT(JJ)=EXP(1745./T(JJ)-XY)
00181 CONT(JJ)=CONT(JJ)*Q(JJ)*PHI(JJ)*Q(JJ)
00182 DO 21 N=1,NFLW
00183 CAPPSI(JJ,N)=1.
00184 IF(N .GT. NF) GO TO 5859
00185 CAPPSI(JJ,N)=EXP(APRI(N)*TT+BPRI(N)*TTT)

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00186 5858 CONTINUE
00187 CAP(JJ,N)=Q(JJ)*CAPPSI(JJ,N)*PHI(JJ)
00188 21 CONTINUE
00189 GO TO 11
00190 4300 Q(JJ)=0.
00191 CONT(JJ)=0.
00192 DO 2333 N=1,NFLW
00193 2333 CAP(JJ,N)=0.
00194 11 CONTINUE
00195 TRAD1=T1
00196 TRAD(1)=T2
00197 TRAD(2)=T(1)
00198 DO 30 I=3,NLEV,2
00199 K=(I+1)/2+1
00200 30 TRAD(K)=T(I)
00201 TRAD(L3)=TS*2.-TL(1BB,LLAY)
00202 DO 1000 N=1,NFLW
00203 DO 1100 I=1,L3
00204 XX=X(N)/TRAD(I)
00205 YY=EXP(XX)-1.
00206 BB(I,N)=CNUCUB(N)/YY
00207 SS(I,N)=BB(I,N)*XX*(YY+1.)/(YY*TRAD(I))
00208 1100 CONTINUE
00209 BG(N)=CNUCUB(N)/(EXP(X(N)/TG(1BB))-1.)
00210 XX=X(N)/TRAD1
00211 YY=EXP(XX)-1.
00212 BB1(N)=CNUCUB(N)/YY
00213 SS1(N)=BB1(N)*XX*(YY+1.)/(YY*TRAD1)
00214 1000 CONTINUE
00215 CM(1)=0.
00216 DO 108 J=2,L2
00217 L=J/2
00218 JJ=2*J-1
00219 CM(J)=CM(J-1)+(CONT(JJ)+4.*CONT(JJ-1)+CONT(JJ-2))*DP(J-1)
00220 1/3./980.
00221 108 CONTINUE
00222 Q1=Q(1)
00223 Q2=Q(1)
00224 DO 301 N=1,NFLW
00225 DO 301 I=1,L2
00226 DO 301 J=1,1
00227 R(I,J,N)=1.
00228 301 R(I,J,N)=1.
00229 DO 100 N=1,NFLW
00230 NN=N-4
00231 NK=N-3
00232 CG=0.
00233 IF(N.EQ.5 .OR. N.EQ.6) CG=G(NN)
00234 VAR(1)=0.0
00235 DO 200 J=2,L2
00236 L=J/2
00237 JJ=2*J-1
00238 VAR(J)=VAR(J-1)+(CAP(JJ,N)+4.*CAP(JJ-1,N)+CAP(JJ-2,N))*
00239 1DP(J-1)/2940.
00240 JMI=J-1
00241 DO 300 I=2,JMI
00242 M=((I/2)*2-I)*((I/2)*2-I)*((J/2)*2-J)*((J/2)*2-J)
00243 IF(M.EQ.0) GO TO 300
00244 PM=VAR(J)-VAR(I)
00245 AV=(CM(J)-CM(I))
00246 PD=CG*AV+SQRT(C(N)*PM)
00247 IF(PD.GT.9.) GO TO 2896
00248 R(I,J,N)=EXP(-PD)
00249 IF(N.LT.4 .OR. N.GT.6) GO TO 25
00250 IF(N.EQ.6) GO TO 26
00251 R(I,J,N)=R(I,J,N)*CTRANS(I,J,NK)
00252 GO TO 25
00253 26 R(I,J,N)=R(I,J,N)*TO3(I,J)
00254 GO TO 25
00255 2896 CONTINUE
00256 R(I,J,N)=0.

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00255      25 R(J,I,N)=R(I,J,N)
00256      300 CONTINUE
00257          PM=VAR(J)
00258          AV=CM(J)
00259          PD=CG *AV+SQRT (C(N)*PM)
00260          IF(PD.GT. 9.) GO TO 1896
00261          R(I,J,N)=EXP(-PD)
00262          IF(N.LT. 4 .OR. N.GT. 6) GO TO 85
00263          IF(N.EQ. 6) GO TO 86
00264          R(I,J,N)=R(I,J,N)*CTRANS(1,J,NK)
00265          GO TO 85
00266      86 R(I,J,N)=R(I,J,N)*TO3(1,J)
00267          GO TO 85
00268      1896 CONTINUE
00269          R(I,J,N)=0.
00270      85 R(J,I,N)=R(I,J,N)
00271      200 CONTINUE
00272          IF( N.GT. NF) GO TO 111
00273          TT=(T1-260.)*1.E-3
00274          TTT=TT*TT
00275          CAP1=EXP(APRI(N)*TT+BPRI(N)*TTT)
00276          TT=(T2-260.)*1.E-3
00277          TTT=TT*TT
00278          CAP2=EXP(APRI(N)*TT+BPRI(N)*TTT)
00279          GO TO 112
00280      111 CAP1=1.
00281          CAP2=1.
00282      112 TERM1=(CAP2*Q2*P2/GRNDP+ CAP(1,N))*DP2 /1960.
00283          TERM=TERM1+(CAP1*Q1 *P1+CAP2*Q2*P2)*DP1 /(1960.*GRNDP)
00284          CMI1=(CONT2*Q2*P2*DP2 *Q2/GRNDP+ CONT(1)*DP2 )/1960.
00285          CMI=CMI1+(CONT1*Q1*P1*DP1 *Q1+CONT2*Q2*P2*DP1 *Q2)/(1960.*GRNDP)
00286          DO 100 I=1,L2
00287              PHII=TERM+VAR(I)
00288              PH=TERM1+VAR(I)
00289              AVI=CMI1 +CM(I)
00290              AV=CM1 +CM(I)
00291              PD=CG *AV1+SQRT(C(N)*PH)
00292              IF( PD.GT. 9.)GO TO 5890
00293              TINF(I,N)=EXP(-CG *AV -SQRT(C(N)*PHII))
00294              WTRINF(I,N)=EXP(-PD)
00295              IF(N.LT. 4 .OR. N.GT. 6) GO TO 100
00296              IF(N.EQ. 6) GO TO 101
00297              TINF(I,N)= TINF(I,N)*CTINF(I,NK)
00298              WTRINF(I,N)=WTRINF(I,N)*CTIN(I,NK)
00299              GO TO 100
00300      101 TINF(I,N)=TINF(I,N)*TI1(I)
00301          WTRINF(I,N)=WTRINF(I,N)*TI2(I)
00302          GO TO 100
00303      5890 CONTINUE
00304          TINF(I,N)=0.
00305          WTRINF(I,N)=0.
00306      100 CONTINUE
00307          DO 507 I=1,21
00308              SS(I,NFL)=0.
00309              DO 507 N=1,NFLW
00310                  SS(I,NFL)=SS(I,NFL)+SS(I,N)*DELNU(N)
00311      507 CONTINUE
00312          DO 508 J=1,L2
00313              DO 508 I=1,L2
00314                  R(I,J,NFL)=0.
00315              DO 605 N=1,NFLW
00316                  R(I,J,NFL)=R(I,J,NFL)+R(I,J,N)*SS(I+1,N)*DELNU(N)
00317      605 CONTINUE
00318          R(I,J,NFL)=R(I,J,NFL)/SS(I+1,NFL)
00319      508 CONTINUE
00320      C DO QUADRATURE
00321          DO 2000 I=1,LLAY
00322              III=2*I
00323              II=III-1
00324              SUM=0.
00325              SURFL=0.

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00325 SURFU=0,
00326 K=1
00327 IF(I .EQ. 1) GO TO 3366
00328 IF(I .EQ. LLLAY .AND. IUP(I-1) .EQ. LLAY) GO TO 2115
00329 IF(I .GT. IUP(I-1)) K=IUP(I-1)+1
00330 3366 CONTINUE
00331 KKK=K+2
00332 KK=KKK-1
00333 DO 2100 J=K,LLAY
00334 S(I,J)=0.
00335 JJJ=2*J
00336 JJ=JJJ-1
00337 IF(J .EQ. IUP(J)) GO TO 2115
00338 IJTEST=(I-J)*(2*(I-J)-3)
00339 IF(IJTEST) 2081,2082,2083
00340 2081 DO 2210 N=1,NFLW
00341 IF(R(II-1,II,N) .LT. .98 ) GO TO 3053
00342 AG=((BB(III-1,N)-BB(III,N))*(1.*R(II-1,II,N))+(BB(III-2,N)-
1BB(III-1,N))*(R(II-1,II,N)+R(II-2,II,N)))/2.
GO TO 3054
00343 3053 CONTINUE
00344 TRB=.125*(6.*R(JJ+1,II,N)+3.*R(JJ,II,N)-R(JJ+2,II,N))
00345 SSB=.125*(6.*SS(JJJ,N)+3.*SS(JJJ+1,N)-SS(JJJ-1,N))
00346 TERM2=(TRAD(JJJ)-TRAD(JJJ+1))*(SS(JJJ,N)+R(JJ,II,N)+4.*SSB+TRB+
+SS(JJJ+1,N)+R(JJ+1,II,N))/6.
00347 IF(R(II-1,II,N) .GE. .7) GO TO 1515
00348 TERM1=(1./6.*R(II-1,II,N))*(BB(III-1,N)-BB(III,N))
00349 AG=TERM1+TERM2
00350 GO TO 3054
00351 1515 CONTINUE
00352 TRD=.125*(6.*R(JJ+1,II,N)+3.*R(JJ+2,II,N)-R(JJ,II,N))
00353 SSD=.125*(6.*SS(JJJ+2,N)+3.*SS(JJJ+1,N)-SS(JJJ+3,N))
00354 AG=TERM2
00355 1*(TRAD(JJJ+1)-TRAD(JJJ+2))*(SS(JJJ+1,N)+R(JJ+1,II,N)+4.*
2SSD+TRD+SS(JJJ+2,N)+R(JJ+2,II,N))/6.
00356 3054 CONTINUE
00357 S(I,J)=S(I,J)+AG *DELNU(N)
00358 2210 CONTINUE
00359 GO TO 2400
00360 2082 DO 2220 N=1,NFLW
00361 IF(R(II+1,II,N) .LT. .98 ) GO TO 3063
00362 AG=((BB(III,N)-BB(III+1,N))*(1.*R(II+1,II,N))+(BB(III+1,N)-
1BB(III+2,N))*(R(II+1,II,N)+R(II+2,II,N)))/2.
GO TO 3064
00363 3063 CONTINUE
00364 TRD=.125*(6.*R(JJ+1,II,N)+3.*R(JJ+2,II,N)-R(JJ,II,N))
00365 SSD=.125*(6.*SS(JJJ+2,N)+3.*SS(JJJ+1,N)-SS(JJJ+3,N))
00366 TERM2=(TRAD(JJJ+1)-TRAD(JJJ+2))*(SS(JJJ+2,N)+R(JJ+2,II,N)+
14.*SSD+TRD+SS(JJJ+1,N)+R(JJ+1,II,N))/6.
00367 IF(R(II+1,II,N) .GE. .7) GO TO 1616
00368 TERM1=(1./6.*R(II+1,II,N))*(BB(III,N)-BB(III+1,N))
00369 AG=TERM1+TERM2
00370 GO TO 3064
00371 1616 CONTINUE
00372 TRB=.125*(6.*R(JJ+1,II,N)+3.*R(JJ,II,N)-R(JJ+2,II,N))
00373 SSB=.125*(6.*SS(JJJ,N)+3.*SS(JJJ+1,N)-SS(JJJ-1,N))
00374 AG=(TRAD(JJJ)-TRAD(JJJ+1))*(SS(JJJ,N)+R(JJ,II,N)+4.*SSB+TRB+
1SS(JJJ+1,N)+R(JJ+1,II,N))/6.
00375 AG=AG+TERM2
00376 3064 CONTINUE
00377 S(I,J)=S(I,J)+AG *DELNU(N)
00378 2220 CONTINUE
00379 GO TO 2400
00380 N=NFLW
00381 2083 TRB=.125*(6.*R(JJ+1,II,N)+3.*R(JJ,II,N)-R(JJ+2,II,N))
00382 SSB=.125*(6.*SS(JJJ,N)+3.*SS(JJJ+1,N)-SS(JJJ-1,N))
00383 TRD=.125*(6.*R(JJ+1,II,N)+3.*R(JJ+2,II,N)-R(JJ,II,N))
00384 SSD=.125*(6.*SS(JJJ+2,N)+3.*SS(JJJ+1,N)-SS(JJJ+3,N))
00385 TERM2=(TRAD(JJJ)-TRAD(JJJ+1))*(SS(JJJ,N)+R(JJ,II,N)+4.*SSB+TRB+
+SS(JJJ+1,N)+R(JJ+1,II,N))/6.
00386 1*(TRAD(JJJ+1)-TRAD(JJJ+2))*(SS(JJJ+1,N)+R(JJ+1,II,N)+4.*

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00387      2SSD=TRD+SS(JJJ+2,N)*R(JJ+2,II,N)/6.
00388      S(I,J)=S(I,J)-TERM2
          2400 CONTINUE
          C WRITE(6,88) I,J, S(I,J)
          C 88 FORMAT(2X,2I5,E12.5)
          SUM=SUM+S(I,J)
00389      2100 CONTINUE
00390      2115 CONTINUE
00391      S(I,LLAY)=0.
00392      IF(I.EQ.1) GO TO 8
00393      IF(I.EQ. LLAY .AND. IUP(I-1).EQ. LLAY) J=LLAY
00394      8 CONTINUE
00395      IF(J.EQ. LLAY) GO TO 2156
00396      IF(J.EQ. IUP(J)) GO TO 2512
00397      DO 2500 N=1,NFLW
00398      2500 SURFL=SURFL+(BG(N)-BB(LL,N))*R(L2,II,N)*DELNU(N)
00399      2512 IF(I.EQ.1) GO TO 2556
00400      IF(IUP(I-1).NE.0) GO TO 2510
00401      2556 DO 2501 N=1,NFLW
00402      S(I,LLAY)=S(I,LLAY)+(TINF(II,N)*SS(I,N)+4.*WTRINF(II,N)*SS(I,N)+
00403      1R(I,II,N)*SS(2,N))*(T1-T(1))/6.-DELNU(N)
          2501 SURFU=SURFU+BB(I,N)-TINF(II,N)*DELNU(N)
          2510 CONTINUE
          RE(1BB,I)=SURFL+SURFU-SUM-S(I,LLAY)
          RE(1BB,I)=RE(1BB,I)*.2064E-2
          2000 CONTINUE
          DO 5552 I=1,LLAY
          PL(1BB,I)=PL(1BB,I)*1.E-3
          PLE(1BB,I)=PLE(1BB,I)*1.E-3
          5552 CONTINUE
          PLE(1BB,LLAY)=PLE(1BB,LLAY)*1.E-3
          RETURN
          END

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SLINKHO394
SLINKHO395
SLINKHO396
SLINKHO397
SLINKHO398
SLINKHO399
SLINKHO400
SLINKHO401
SLINKHO402
SLINKHO403
SLINKHO404
SLINKHO405
SLINKHO406
SLINKHO407
SLINKHO408
SLINKHO409
SLINKHO410
SLINKHO411
SLINKHO412
SLINKHO413
SLINKHO414
SLINKHO415
SLINKHO416
SLINKHO417
SLINKHO418
SLINKHO419
SLINKHO420
SLINKHO421
SLINKHO422
SLINKHO423
SLINKHO424
SLINKHO425
SLINKHO426

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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10	92	91				
100	306	228	286	295	299	302
1000	214	202				
101	300	296				
108	220	216				
11	194	113	165	189		
1100	208	203				
111	280	272				
112	282	279				
12	164	123				
1256	148	133	138	145		
1257	154	147				
13	163	126				
1333	152	151				
14	136	127				
15	141	135				
1515	352	348				
1616	372	368				
18	162	153				
1896	268	260				
19	161	155				
20	93	89	90			
200	271	234				
2000	408	320				
2081	340	339				
2082	360	339				
2083	381	339				
21	188	182				
2100	390	333				
2115	391	328	337			
2156	398	396				
2210	358	340				
2220	379	360				
2324	85	72				

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2333	193	192		
2400	388	359	380	
25	255	247	250	252
2500	399	398		
2501	404	402		
2510	405	401		
2512	400	397		
2555	66	61		
2556	402	400		
26	251	248		
2896	253	245		
30	200	198		
300	256	239	241	
301	227	223	224	225
3053	344	341		
3054	356	343	351	
3063	364	361		
3064	377	363	371	
3366	330	327		
4300	190	169	170	171
4301	177	175		
4302	176	172		
507	311	307	309	
508	319	312	313	
5354	112	110		
5552	412	409		
5858	186	184		
5859	159	157		
5890	303	292		
6	104	98		
605	317	315		
7	102	101		
7777	117	114		
7778	118	116		
8	395	393		
80	97	94	95	96
85	270	262	265	267
86	266	263		
9	103	99	100	102
9000	105	88		

VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES	A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE
AG		REAL	SIMPLE	342/S	350/S 355/S 357 362/S 370/S 375/S 376/S 376 378
AL	RADCOM	REAL	ARRAY	17	
APRI		REAL	ARRAY	37	40/I 158 185 275 278
AS	RADCOM	REAL	ARRAY	2	
AV		REAL	SIMPLE	130/S	131 132 243/S 244 258/S 259 290/S 293
AV1		REAL	SIMPLE	289/S	291
BB		REAL	ARRAY	39	206/S 207 342 342 342 342 349 349 362 362
BB1		REAL	ARRAY	362	362 369 399
BG		REAL	ARRAY	38	212/S 213 404
BPRI		REAL	ARRAY	38	209/S 399
C		REAL	ARRAY	37	41/I 158 185 275 278
CAP		REAL	ARRAY	37	43/I 244 259 291 293
CAP1		REAL	ARRAY	39	152/S 160/S 187/S 193/S 237 237 237 282
CAP2		REAL	SIMPLE	275/S	280/S 283
CAPPST		REAL	SIMPLE	278/S	281/S 282 283
CDATE		REAL	ARRAY	39	156/S 158/S 160 183/S 185/S 187
CG	RADCOM	REAL	ARRAY	26	
CLOUD	RADCOM	REAL	SIMPLE	231/S	232/S 244 259 291 293
OM		REAL	ARRAY	8	65
OMI		REAL	ARRAY	38	215/S 219/S 219 243 243 258 289 290
OMI1		REAL	SIMPLE	285/S	290
CNUCUB		REAL	SIMPLE	284/S	225 289
CONT		REAL	ARRAY	37	45/I 206 209 212
		REAL	ARRAY	39	144/S 146/S 146 149/S 180/S 181/S 181 191/S 219 219
CONT1		REAL	SIMPLE	219	284
				107/S	285

CONT2		REAL	SIMPLE	108/S	284	285								
COSZ	RADCOM	REAL	ARRAY	28										
CTIN		REAL	ARRAY	37	91/R	298								
CTINF		REAL	ARRAY	37	91/R	297								
CTRANS		REAL	ARRAY	37	91/R	97/S	97	249	264					
CVQ	RADCOM	REAL	ARRAY	14										
CVT	RADCOM	REAL	ARRAY	14										
CXDE	RADCOM	REAL	ARRAY	15										
CXL	RADCOM	REAL	SIMPLE	28										
CZH	RADCOM	REAL	ARRAY	27										
DELNU		REAL	ARRAY	37	46/I	310	316	357	378	399	403	404		
DP		REAL	ARRAY	36	75/S	75/S	78	80	219	237				
DP1		REAL	SIMPLE	69/S	283	285	289							
DP2		REAL	SIMPLE	70/S	282	284	284							
EVAP	RADCOM	REAL	SIMPLE	27										
FK	RADCOM	REAL	ARRAY	23										
FROST	RADCOM	LOGICAL	ARRAY	32	33									
G		REAL	ARRAY	37	42/I	232								
GAM	RADCOM	REAL	ARRAY	9										
GRNDP		REAL	SIMPLE	47/I	81	82	83	84	87	282	283	284	285	
HH	RADCOM	REAL	ARRAY	12										
HHE	RADCOM	REAL	ARRAY	12										
HHS	RADCOM	REAL	ARRAY	13										
I		INTEGER	SIMPLE	61/C	62	62	63	63	64	64	65	65	66	90
				91	91	91	91	95/C	96	97	97	99	99/C	100
				100/C	101/C	102	110/C	111	113/C	114	114	115	115	119
				119	120	120	122	122	125	127	137	138	139	140
				140	164	167	168	169	169	170	171	172	174	198
				199	200	203/C	204	206	207	207	224/C	225	226	226
				227	239/C	240	240	240	240	242	243	246	249	249
				249	251	251	251	254	255	255	286/C	287	288	289
				290	293	294	297	297	297	298	298	298	300	300
				300	301	301	301	304	305	307/C	308	310	310	310
				313/C	314	316	316	316	316	318	318	318	320/C	321
				327	328	328	329	329	329	334	338	338	357	357
				378	378	387	387	389	392	393	394	394	400	401
				403	403	406	406	407	407	409/C	410	410	411	411
IBB		INTEGER	SIMPLE	1	62	62	63	63	64	64	65	67	67	68
				68	70	75	75	76	76	77	78	79	80	86
				109	111	114	114	115	115	119	119	120	120	131
				133	134	134	134	137	138	139	140	140	167	168
				169	169	170	171	172	174	201	209	406	407	407
				410	410	411	411	413	413					
ICE		LOGICAL	ARRAY	31	33									
IDAY	RADCOM	INTEGER	SIMPLE	1	71									
II		INTEGER	SIMPLE	322/S	341	341	342	342	342	342	342	342	345	345
				345	347	347	348	348	349	349	353	353	353	355
				355	361	361	362	362	362	362	362	362	365	365
				365	367	367	368	368	369	369	373	373	373	375
				375	382	382	382	384	384	384	386	386	386	386
				399	403	403	403	404						
III		INTEGER	SIMPLE	321/S	322	342	342	342	342	349	349	352	362	362
				362	369	369								
IJ		INTEGER	SIMPLE	74/S	77	78	79	80	81	81	82	82	83	83
				84	84									
IJTEST		INTEGER	SIMPLE	338/S	339									
IUP		INTEGER	ARRAY	38	66/S	328	329	329	337	394	397	401		
J		INTEGER	SIMPLE	72/C	73	74	75	75	76	76	77	78		80
				91	91/C	96/C	97	97	102	102/C	216/C	217	218	219
				219	219	225/C	226	227	234/C	235	236	237	237	237
				238	240	240	240	240	242	243	246	249	249	249
				251	251	251	254	255	255	257	258	261	264	264
				264	266	266	266	269	270	270	312/C	314	316	316
				316	318	318	333/C	334	335	337	337	338	338	357
				357	378	378	387	387	389	394/S	396	397	397	
				30	106									
JALB	RADCOM	INTEGER	SIMPLE	73/S	75	76	78	80	128/S	129	131	134	136/S	137
JJ		INTEGER	SIMPLE	139	140	142	144	144	145	146	146	146	146	146
				149	150	152	156	158	160	160	160	160	166/S	167

			168	174	176	176	178	180	180	181	181	181	
			181	183	185	187	187	187	187	190	191	193	218
			219	219	219	236/S	237	237	237	336/S	345	345	345
			347	347	353	353	353	355	355	365	365	365	367
			367	373	373	373	375	375	382	382	382	384	384
			384	386	386	386	386						
JJJ	INTEGER	SIMPLE	335/S	336	346	346	346	347	347	347	347	354	354
			354	355	355	355	355	366	366	366	367	367	367
			367	374	374	374	375	375	375	375	382	383	383
			385	385	385	386	386	386	386	386	386	386	386
JM1	INTEGER	SIMPLE	238/S	239									
JNP	INTEGER	UNKNOWN	1										
K	INTEGER	SIMPLE	60/S	65/S	66	126/C	128	135	165/C	166	170	171	172
			199/S	200	326/S	329/S	331	333					
KJ	INTEGER	SIMPLE	164/S	166									
KK	INTEGER	SIMPLE	332/S										
KKK	INTEGER	SIMPLE	331/S	332									
KURT	INTEGER	SIMPLE	48/I	88	105/S								
L	INTEGER	SIMPLE	122/S	123	217/S	235/S							
L2	INTEGER	SIMPLE	57/S	58	95	99	100	101	102	216	224	234	286
			312	313	399								
L3	INTEGER	SIMPLE	59/S	201	203								
LA	INTEGER	SIMPLE	53/S	122									
LAND	LOGICAL	ARRAY	31	33									
LATD	INTEGER	SIMPLE	1	71									
LAY	INTEGER	SIMPLE	49/S	53	113								
LINKHO		SUBROUTINE	1										
LL	INTEGER	SIMPLE	58/S	59	399								
LLAY	INTEGER	SIMPLE	1	49	54	55	57	61	72	131	134	201	328
			333	394	409								
LLAY	INTEGER	SIMPLE	54/S	68	68	86	109	320	328	392	394	394	396
			403	403	406	413							
M	INTEGER	SIMPLE	124/S	125/S	126	240/S	241						
MIXWI	LOGICAL	ARRAY	32	33									
N	INTEGER	SIMPLE	89/C	91	91	91	94/C	97	97	98/C	99	100	102
			151/C	152	155/C	156	157	158	158	158	160	160	182
			183	184	185	185	185	187	187	192/C	193	202/C	204
			206	206	207	207	209	209	209	210	212	212	213
			213	223/C	226	227	228/C	229	230	232	232	237	237
			237	244	246	247	247	248	249	249	251	251	254
			255	255	259	261	262	262	263	264	264	266	266
			269	270	270	272	275	275	278	278	282	291	293
			293	294	295	295	296	297	297	298	298	300	300
			301	301	304	305	308/C	310	310	315/C	316	316	316
			340/C	341	342	342	342	342	342	342	342	345	345
			345	346	346	346	347	347	347	347	348	349	349
			349	353	353	353	354	354	354	355	355	355	355
			357	360/C	361	362	362	362	362	362	362	362	362
			365	365	366	366	366	367	367	367	367	368	369
			369	369	373	373	373	374	374	374	375	375	375
			375	378	381/S	382	382	382	383	383	383	384	384
			384	385	385	385	386	386	386	386	386	386	386
			386	398/C	399	399	399	399	402/C	403	403	403	403
			403	403	403	404	404	404					
NF	INTEGER	SIMPLE	50/S	157	184	272							
NFF	INTEGER	SIMPLE	47/I	51									
NFK	INTEGER	SIMPLE	23										
NFL	INTEGER	SIMPLE	52/S	308	310	310	314	316	316	318	318	318	381
NFLW	INTEGER	SIMPLE	1	51/S	52	151	155	182	192	202	223	228	309
			315	340	360	398	402						
NK	INTEGER	SIMPLE	230/S	249	264	297	298						
NLAYOZ	INTEGER	SIMPLE	22										
NLE	INTEGER	SIMPLE	56/S	128	130								
NLEV	INTEGER	SIMPLE	55/S	56	86	87	87	129	130	198			
NN	INTEGER	SIMPLE	229/S	232									
NOZ	INTEGER	SIMPLE	26										
OCEAN	LOGICAL	ARRAY	31	33									
OCM22	REAL	ARRAY	25										
OCM30	REAL	ARRAY	25										
OCM38	REAL	ARRAY	25										

OCM46	RADCOM	REAL	ARRAY	25											
OCMXX	RADCOM	REAL	ARRAY	26											
OLAPR	RADCOM	REAL	ARRAY	24											
OLJAN	RADCOM	REAL	ARRAY	24											
OLJUL	RADCOM	REAL	ARRAY	24											
OLOCT	RADCOM	REAL	ARRAY	24											
OZALE	RADCOM	REAL	ARRAY	18											
P		REAL	ARRAY	39	77/S	78/S	79/S	80/S	81	82	83	84	86/S	87	
P1				129	129	130	130	137	167						
P2				47/I	69	283	285								
PD		REAL	SIMPLE	47/I	69	70	282	283	284	285					
PDG		REAL	SIMPLE	121/S	168	244/S	245	246	259/S	260	261	291/S	292	294	
		REAL	SIMPLE	129/S	131	132/S	132	134	137/S	139	167/S	168	173/S	173	
				174											
PDP		REAL	SIMPLE	120/S	121	137	173								
PDQ		REAL	SIMPLE	115/S	117/S	139	174								
PDT		REAL	SIMPLE	119/S	121										
PH		REAL	SIMPLE	288/S	291										
PHI		REAL	ARRAY	39	81/S	82/S	83/S	84/S	87/S	146	160	181	187		
PHI I		REAL	SIMPLE	287/S	293										
PL	RADCOM	REAL	ARRAY	3	63/S	63	75	75	79	80	120	120	137	167	
				410/S	410										
PLE	RADCOM	REAL	ARRAY	3	64/S	64	68/S	68	70	75	76	77	78	86	
				411/S	411	413/S	413								
PLK	RADCOM	REAL	ARRAY	4											
PLKE	RADCOM	REAL	ARRAY	4											
PM		REAL	SIMPLE	242/S	244	257/S	259								
PREP	RADCOM	REAL	ARRAY	27											
PROC	RADCOM	REAL	ARRAY	26											
Q		REAL	ARRAY	39	134/S	139/S	140/S	145	146	146	150/S	160	174/S	176	
				176	181	181	187	190/S	221	222					
Q1		REAL	SIMPLE	221/S	283	285	285								
Q2		REAL	SIMPLE	222/S	282	283	284	284	285	285					
R		REAL	ARRAY	39	226/S	227/S	246/S	249/S	249	251/S	251	254/S	255/S	255	
				261/S	264/S	264	266/S	266	269/S	270/S	270	314/S	316/S	316	
				316	318/S	318	341	342	342	342	345	345	345	347	
				347	348	349	353	353	353	355	355	355	355	362	
				362	365	365	365	367	367	368	369	373	373	373	
				375	375	382	382	382	384	384	384	386	386	386	
				386	399	403									
RADCOM		REAL	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12	
				13	14	15	16	17	18	19	20	21	22	23	
				24	25	26	27	28	29	30	31	32			
RADTRM	RADCOM	REAL	ARRAY	28											
RCLLOUD	RADCOM	REAL	ARRAY	30											
RE	RADCOM	REAL	ARRAY	2	406/S	407/S	407								
RH	RADCOM	REAL	ARRAY	10											
RN	RADCOM	REAL	ARRAY	20											
RSURF	RADCOM	REAL	ARRAY	30											
S		REAL	ARRAY	39	334/S	357/S	357	378/S	378	387/S	387	389	392/S	403	
				403	406										
SO	RADCOM	REAL	SIMPLE	28											
SG	RADCOM	REAL	ARRAY	29											
SHG	RADCOM	REAL	ARRAY	8	67	67/S	133	134	134						
SHL	RADCOM	REAL	ARRAY	7	62	62/S	114	114	115	115	134	138	139	140	
				140	169	169	170	171	172	174					
SHLE	RADCOM	REAL	ARRAY	7											
SHSAT	RADCOM	REAL	ARRAY	9											
SNOW	RADCOM	LOGICAL	ARRAY	32	33										
SP	RADCOM	REAL	ARRAY	29											
SHS	RADCOM	REAL	ARRAY	20											
SS		REAL	ARRAY	39	207/S	308/S	310/S	310	310	316	318	346	346	346	
				347	347	354	354	354	355	355	366	366	366	367	
				367	374	374	374	375	375	383	383	383	385	385	
				385	386	386	386	386	403	403					
SS1		REAL	ARRAY	38	213/S	403									
SSB		REAL	SIMPLE	346/S	347	374/S	375	383/S	386						
SSD		REAL	SIMPLE	354/S	355	366/S	367	385/S	386						
SSS	RADCOM	REAL	ARRAY	11											
SSSE	RADCOM	REAL	ARRAY	11											

STN	RADCOM	REAL	ARRAY	20													
SUM		REAL	SIMPLE	323/S	389/S	389	406										
SURFL		REAL	SIMPLE	324/S	399/S	399	406										
SURFU		REAL	SIMPLE	325/S	404/S	404	406										
SWALE	RADCOM	REAL	ARRAY	15													
SWIL	RADCOM	REAL	ARRAY	16													
T		REAL	ARRAY	39	111/S	131/S	142	144	168/S	178	180	197	200	403			
T1		REAL	SIMPLE	71	107	195	273	403									
T2		REAL	SIMPLE	71	108	196	276										
TAUL	RADCOM	REAL	ARRAY	18													
TCOND	RADCOM	REAL	ARRAY	21													
TERM		REAL	SIMPLE	283/S	287												
TERM1		REAL	SIMPLE	282/S	283	288	349/S	350	369/S	370							
TERM2		REAL	SIMPLE	347/S	350	355	367/S	370	376	386/S	387						
TG	RADCOM	REAL	ARRAY	6	209												
TH	RADCOM	REAL	ARRAY	6													
TI1		REAL	ARRAY	34	106	300											
TI2		REAL	ARRAY	34	106	301											
TINF		REAL	ARRAY	38	293/S	297/S	297	300/S	300	304/S	403	404					
TL	RADCOM	REAL	ARRAY	5	111	119	119	131	168	201							
TLE	RADCOM	REAL	ARRAY	5	109												
TLOWL	RADCOM	REAL	SIMPLE	22													
TMIDL	RADCOM	REAL	SIMPLE	22													
TN	RADCOM	REAL	ARRAY	20													
TO1		REAL	ARRAY	35	99/R	106											
TO2		REAL	ARRAY	35	100/R	106											
TO3		REAL	ARRAY	34	106	251	266										
TOPABS	RADCOM	REAL	ARRAY	19													
TOTOZ	RADCOM	REAL	ARRAY	26													
TPENE	RADCOM	REAL	ARRAY	21													
TRAD		REAL	ARRAY	39	196/S	197/S	200/S	201/S	204	207	347	355	355				
				367	367	375	375	386	386	386	386	386	386				
TRAD1		REAL	SIMPLE	195/S	210	213											
TRB		REAL	SIMPLE	345/S	347	373/S	375	382/S	386								
TRD		REAL	SIMPLE	353/S	355	365/S	367	384/S	386								
TRO3		REAL	ARRAY	35	102/R	106											
TS		REAL	SIMPLE	109/S	131	131	201										
TT		REAL	SIMPLE	142/S	143	143	158	178/S	179	179	185	273/S	274	274			
				275	276/S	277	277	278									
TTT		REAL	SIMPLE	143/S	158	179/S	185	274/S	275	277/S	278						
VAR		REAL	ARRAY	39	233/S	237/S	237	242	242	257	287	288					
W		REAL	ARRAY	39													
WET	RADCOM	REAL	ARRAY	27													
WI	RADCOM	REAL	ARRAY	27													
WTPINF		REAL	ARRAY	38	294/S	298/S	298	301/S	301	305/S	403						
X		REAL	ARRAY	37	44/I	204	209	210									
XX	RADCOM	REAL	ARRAY	23													
XX		REAL	SIMPLE	204/S	205	207	210/S	211	213								
XY		REAL	SIMPLE	47/I	107	108	144	180									
YY		REAL	SIMPLE	205/S	206	207	207	211/S	212	213	213						

PROCEDURE MAP

--NAME--	TYPE	CLASS	REFERENCES	D=STMT	FN	DEF	A=ARGLIST
ALOG	REAL	INTRINSIC	120	129	130	137	167
EXP	REAL	INTRINSIC	107	108	144	158	180
			275	278	293	294	
OSINT		SUBROUTINE	106				
SQRT	REAL	INTRINSIC	244	259	291	293	
STRATM		SUBROUTINE	71				

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00057      IF (XLAT.LT.0.00) CDAY = CDAY + 183.0
00058      IF (CDAY.GT.365.) CDAY = CDAY - 365.0
00059      DLAT = ABS(XLAT)
00060      DO 100 J=1,5
00061      CDATEJ = CDATE(J)
00062      IF (CDAY.LT.CDATEJ) GO TO 110
00063      CDATEI=CDATEJ
00064      100      CONTINUE
00065      110      CONTINUE
00066      DXDATE = (CDAY - CDATEI)/(CDATEJ - CDATEI)
00067      DLATI = 0.0
00068      DO 120 K=2,19
00069      J = K
00070      DLATJ = DLATI + 5.0
00071      IF (DLAT.LT.DLATJ) GO TO 130
00072      DLATI = DLATJ
00073      120      CONTINUE
00074      130      CONTINUE
00075      DXDLAT = (DLAT - DLATI)/5.0
00076      JMI = J-1

.....
.....
.....
TOTAL VERTICAL OZONE CONTENT (CM*NTP)
FOR GIVEN LATITUDE AND DATE
.....
.....

00077      IF (CDAY.GT.15.00) GO TO 150
00078      CONTINUE
00079      140      OD1 = OLOCT(JMI) + DXDLAT*(OLOCT(J) - OLOCT(JMI))
00080      OD2 = OLJAN(JMI) + DXDLAT*(OLJAN(J) - OLJAN(JMI))
00081      GO TO 200
00082      150      CONTINUE
00083      IF (CDAY.GT.105.0) GO TO 170
00084      OD1 = OLJAN(JMI) + DXDLAT*(OLJAN(J) - OLJAN(JMI))
00085      OD2 = OLAPR(JMI) + DXDLAT*(OLAPR(J) - OLAPR(JMI))
00086      GO TO 200
00087      170      CONTINUE
00088      IF (CDAY.GT.196.0) GO TO 190
00089      OD1 = OLAPR(JMI) + DXDLAT*(OLAPR(J) - OLAPR(JMI))
00090      OD2 = OLJUL(JMI) + DXDLAT*(OLJUL(J) - OLJUL(JMI))
00091      GO TO 200
00092      190      CONTINUE
00093      IF (CDAY.GT.288.0) GO TO 140
00094      OD1 = OLJUL(JMI) + DXDLAT*(OLJUL(J) - OLJUL(JMI))
00095      OD2 = OLOCT(JMI) + DXDLAT*(OLOCT(J) - OLOCT(JMI))
00096      200      CONTINUE
00097      TOTOOM = OD1 + DXDATE*(OD2 - OD1)

.....
.....
.....
VERTICAL OZONE DISTRIBUTION FOR GIVEN TOTAL OZONE CONTENT
.....
.....

00098      TOTOZI = TOTOZ(1)
00099      DO 210 K=2,4
00100      J = K
00101      TOTOZJ = TOTOZ(J)
00102      IF (TOTOOM.LT.TOTOZJ) GO TO 220
00103      TOTOZI = TOTOZJ
00104      210      CONTINUE
00105      220      CONTINUE
00106      DXOCM = (TOTOOM - TOTOZI)/0.08
00107      IF (J.GT.2) GO TO 240
00108      DO 230 N=1,NOZ
00109      OCMXX(N) = OCM22(N) + DXOCM*(OCM30(N) - OCM22(N))
00110      230      CONTINUE
00111      GO TO 280
00112      240      CONTINUE

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SOZONE2 11
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SOZONE2 80
SOZONE2 81

VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES
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A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

ACLEAR	DSOLAR	REAL	ARRAY	44															
ACLOUD	DSOLAR	REAL	ARRAY	45															
AL	RADCOM	REAL	ARRAY	17															
AS	RADCOM	REAL	ARRAY	2															
CDATE	RADCOM	REAL	ARRAY	26	61														
CDATEI		REAL	SIMPLE	63/S	66	66													
CDATEJ		REAL	SIMPLE	61/S	62	63	56												
CDAY		REAL	SIMPLE	56/S	57/S	57	58	58/S	58	62	66	77	83	88					
				93															
CLEAR	DSOLAR	LOGICAL	ARRAY	51	54														
CLOUD	RADCOM	REAL	ARRAY	8															
CLOUDY	DSOLAR	LOGICAL	ARRAY	52	54														
COSMAG	DSOLAR	REAL	ARRAY	36															
COSZ	RADCOM	REAL	ARRAY	28															
CVQ	RADCOM	REAL	ARRAY	14															
CVT	RADCOM	REAL	ARRAY	14															
CXDE	RADCOM	REAL	ARRAY	15															
CKL	RADCOM	REAL	SIMPLE	28															
CZH	RADCOM	REAL	ARRAY	27															
DARK	DSOLAR	LOGICAL	ARRAY	50	54	124													
DLAT		REAL	SIMPLE	59/S	71	75													
DLATI		REAL	SIMPLE	67/S	70	72/S	75												
DLATJ		REAL	SIMPLE	70/S	71	72													
DSOLAR		REAL	UNKNOWN	34	35	36	37	38	39	40	41	42	43	44					
				45	46	47	48	49	50	51	52	53							
DXDATE		REAL	SIMPLE	66/S	97														
DXDLAT		REAL	SIMPLE	75/S	79	80	84	85	89	90	94	95							
DXOCM		REAL	SIMPLE	106/S	109	115	120												
DXPRO		REAL	SIMPLE	137/S	140														
EVAP	RADCOM	REAL	SIMPLE	27															
FCLD	DSOLAR	LOGICAL	ARRAY	53	54														
FCLEAR	DSOLAR	REAL	ARRAY	42															
FCLOUD	DSOLAR	REAL	ARRAY	41															
FK	RADCOM	REAL	ARRAY	23															
FROST	RADCOM	LOGICAL	ARRAY	32	33														
FSCAT	DSOLAR	REAL	ARRAY	38															
GAM	RADCOM	REAL	ARRAY	9															
HH	RADCOM	REAL	ARRAY	12															
HHE	RADCOM	REAL	ARRAY	12															
HHS	RADCOM	REAL	ARRAY	13															
I		INTEGER	SIMPLE	123/C	124	128	140												
ICE	RADCOM	LOGICAL	ARRAY	31	33														
IM		INTEGER	SIMPLE	1	123														
J		INTEGER	SIMPLE	60/C	61	69/S	76	79	80	84	85	89	90	94					
				95	100/S	101	107	113	130/S	131	135	138	139	140					
JALB	RADCOM	INTEGER	SIMPLE	30															
JM1		INTEGER	SIMPLE	76/S	79	79	80	80	84	84	85	85	89	89					
				90	90	94	94	95	95	138/S	140	140							
K		INTEGER	SIMPLE	68/C	69	99/C	100	129/C	130										
L		INTEGER	SIMPLE	127/C	128	140													
LAND	RADCOM	LOGICAL	ARRAY	31	33														
MIXWI	RADCOM	LOGICAL	ARRAY	32	33														
N		INTEGER	SIMPLE	108/C	109	109	109	109	114/C	115	115	115	115	119					
				120	120	120	120												
NFK	RADCOM	INTEGER	SIMPLE	23															
NLAYO1		INTEGER	SIMPLE	1	127														
NLAYOZ	RADCOM	INTEGER	SIMPLE	22															
NOZ	RADCOM	INTEGER	SIMPLE	26	108	114	119	129											
NP		INTEGER	SIMPLE	125/S	129	139/S													
NTOP	DSOLAR	INTEGER	ARRAY	49															
NTOPF	DSOLAR	INTEGER	ARRAY	48															
NTOPT	DSOLAR	INTEGER	ARRAY	47															
OCEAN	RADCOM	LOGICAL	ARRAY	31	33														
OCM22	RADCOM	REAL	ARRAY	25	109	109	115												
OCM30	RADCOM	REAL	ARRAY	25	109	115	115												
OCM38	RADCOM	REAL	ARRAY	25	115	120	120												
OCM46	RADCOM	REAL	ARRAY	25	120														

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OF POOR QUALITY

OCMXX	RADCOM	REAL	ARRAY	26	109/S	115/S	120/S	140	140	140										
OD1		REAL	SIMPLE	79/S	84/S	89/S	94/S	97	97											
OD2		REAL	SIMPLE	80/S	85/S	90/S	95/S	97												
OLAPR	RADCOM	REAL	ARRAY	24	85	85	85	89	89	89										
OLJAN	RADCOM	REAL	ARRAY	24	80	80	80	84	84	84										
OLJUL	RADCOM	REAL	ARRAY	24	90	90	90	94	94	94										
OLOCT	RADCOM	REAL	ARRAY	24	79	79	79	95	95	95										
OZALE	RADCOM	REAL	ARRAY	18	140/S															
OZONE2			SUBROUTINE	1																
PL	RADCOM	REAL	ARRAY	3																
PLE	RADCOM	REAL	ARRAY	3	128															
PLEN		REAL	SIMPLE	128/S	132	137														
PLK	RADCOM	REAL	ARRAY	4																
PLKE	RADCOM	REAL	ARRAY	4																
PREP	RADCOM	REAL	ARRAY	27																
PROCMI	RADCOM	REAL	ARRAY	26	126	131	135													
PROCMI		REAL	SIMPLE	126/S	133/S	135/S	137	137												
PROCMI		REAL	SIMPLE	131/S	132	133	137													
RADCOM		REAL	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12						
				13	14	15	16	17	18	19	20	21	22	23						
				24	25	26	27	28	29	30	31	32								
RADTRM	RADCOM	REAL	ARRAY	28																
RCLEAR	DSOLAR	REAL	ARRAY	39																
RCLOUD	RADCOM	REAL	ARRAY	30																
RE	RADCOM	REAL	ARRAY	2																
RH	RADCOM	REAL	ARRAY	10																
RMEAN	DSOLAR	REAL	ARRAY	34																
RN	RADCOM	REAL	ARRAY	20																
RSURF	RADCOM	REAL	ARRAY	30																
SO	RADCOM	REAL	SIMPLE	28																
SCOSZ	DSOLAR	REAL	ARRAY	37																
SG	RADCOM	REAL	ARRAY	29																
SHG	RADCOM	REAL	ARRAY	8																
SHL	RADCOM	REAL	ARRAY	7																
SHLE	RADCOM	REAL	ARRAY	7																
SHSAT	RADCOM	REAL	ARRAY	9																
SNOW	RADCOM	LOGICAL	ARRAY	32	33															
SP	RADCOM	REAL	ARRAY	29																
SRS	RADCOM	REAL	ARRAY	20																
SSS	RADCOM	REAL	ARRAY	11																
SSSE	RADCOM	REAL	ARRAY	11																
STN	RADCOM	REAL	ARRAY	20																
SWALE	RADCOM	REAL	ARRAY	16																
SWIL	RADCOM	REAL	ARRAY	16																
TAUL	RADCOM	REAL	ARRAY	18																
TCOND	RADCOM	REAL	ARRAY	21																
TEMP1	DSOLAR	REAL	ARRAY	40																
TG	RADCOM	REAL	ARRAY	6																
TH	RADCOM	REAL	ARRAY	6																
TL	RADCOM	REAL	ARRAY	5																
TLE	RADCOM	REAL	ARRAY	5																
TLOWL	RADCOM	REAL	SIMPLE	22																
TMIDL	RADCOM	REAL	SIMPLE	22																
TN	RADCOM	REAL	ARRAY	20																
TOPABS	RADCOM	REAL	ARRAY	19																
TOTABS	DSOLAR	REAL	ARRAY	35																
TOTOCM		REAL	SIMPLE	97/S	102	106														
TOTOZ	RADCOM	REAL	ARRAY	26	98	101														
TOTOZI		REAL	SIMPLE	98/S	103/S	106														
TOTOZJ		REAL	SIMPLE	101/S	102	103														
TPENE	RADCOM	REAL	ARRAY	21																
W	DSOLAR	REAL	ARRAY	43																
WET	RADCOM	REAL	ARRAY	27																
WI	RADCOM	REAL	ARRAY	27																
WW	DSOLAR	REAL	ARRAY	46																
XDAY		REAL	SIMPLE	1	56															
XK	RADCOM	REAL	ARRAY	23																
XLAT		REAL	SIMPLE	1	57	59														

PROCEDURE MAP

ORIGINAL PAGE IS
OF POOR QUALITY

OZONE2 5

NAME	TYPE	CLASS	REFERENCES
ABS	REAL	INTRINSIC	59

D=STMT FN DEF. A=ARGLIST

ORIGINAL PAGE IS
OF POOR QUALITY

ORIGINAL PAGE IS
OF POOR QUALITY

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00001      SUBROUTINE O3INT(TO1,TO2,TRO3,TI1,TI2,TO3,JALB)
C
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00002      COMMON /CCNTRL/ CC0
00003      COMMON /CCNTRL/ ADATE
00004      COMMON /CCNTRL/ ATIME
00005      COMMON /CCNTRL/ JIC
00006      COMMON /CCNTRL/ JOB
00007      COMMON /CCNTRL/ CCSP06
00008      COMMON /CCNTRL/ CCSP07
00009      COMMON /CCNTRL/ CCSP08
00010      COMMON /CCNTRL/ VER
00011      COMMON /CCNTRL/ XLABEL (10)
00012      COMMON /CCNTRL/ CQS (30)
00013      COMMON /CCNTRL/ COU (10)
C
00014      EQUIVALENCE      (CC0,CC(1))
00015      CHARACTER*8      CC0, CC(200)
00016      CHARACTER*8      ADATE
00017      CHARACTER*8      ATIME
00018      CHARACTER*8      JIC
00019      CHARACTER*8      JOB
00020      CHARACTER*8      CCSP06
00021      CHARACTER*8      CCSP07
00022      CHARACTER*8      CCSP08
00023      CHARACTER*8      VER
00024      CHARACTER*8      XLABEL
C
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00025      COMMON /ICNTRL/ IC0
00026      COMMON /ICNTRL/ IM
00027      COMMON /ICNTRL/ IMD2
00028      COMMON /ICNTRL/ IMD2P1
00029      COMMON /ICNTRL/ NDRSW
00030      COMMON /ICNTRL/ JN
00031      COMMON /ICNTRL/ JMD2
00032      COMMON /ICNTRL/ JMT2
00033      COMMON /ICNTRL/ JNP
00034      COMMON /ICNTRL/ JO4
00035      COMMON /ICNTRL/ JO8
00036      COMMON /ICNTRL/ JSP
00037      COMMON /ICNTRL/ KLIALB
00038      COMMON /ICNTRL/ KLIGW
00039      COMMON /ICNTRL/ KLISST
00040      COMMON /ICNTRL/ KS
00041      COMMON /ICNTRL/ KU
00042      COMMON /ICNTRL/ LOGBR
00043      COMMON /ICNTRL/ MATIN
00044      COMMON /ICNTRL/ MATSNX
00045      COMMON /ICNTRL/ MATSUN
00046      COMMON /ICNTRL/ MLF      (12)
00047      COMMON /ICNTRL/ MROD
00048      COMMON /ICNTRL/ NKRSR
00049      COMMON /ICNTRL/ MSM
00050      COMMON /ICNTRL/ NB
00051      COMMON /ICNTRL/ NO
00052      COMMON /ICNTRL/ NDALT
00053      COMMON /ICNTRL/ NDAY
00054      COMMON /ICNTRL/ NDOUT
00055      COMMON /ICNTRL/ NDPHY
00056      COMMON /ICNTRL/ NDSHF
00057      COMMON /ICNTRL/ NDT
00058      COMMON /ICNTRL/ NHMS
00059      COMMON /ICNTRL/ NHMSE
00060      COMMON /ICNTRL/ NHMSO
00061      COMMON /ICNTRL/ NLAY
00062      COMMON /ICNTRL/ NLAYM1
00063      COMMON /ICNTRL/ NLAYP1
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SO3INT      2
SO3INT      3
SCNTRL      2
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SCNTRL     70
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00064	COMMON /ICNTRL/ NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
C		SCNTRL 84
00077	EQUIVALENCE (ITMIN .IQS(1))	SCNTRL 85
00078	EQUIVALENCE (ITMAX .IQS(2))	SCNTRL 86
00079	EQUIVALENCE (IPREACC .IQS(3))	SCNTRL 87
00080	EQUIVALENCE (IPRECON .IQS(4))	SCNTRL 88
00081	EQUIVALENCE (IHFLUX .IQS(5))	SCNTRL 89
00082	EQUIVALENCE (IEFLUX .IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION .IQS(7))	SCNTRL 91
00084	EQUIVALENCE (IRADSWG .IQS(8))	SCNTRL 92
00085	EQUIVALENCE (IRADLWG .IQS(9))	SCNTRL 93
00086	EQUIVALENCE (LICLOUD .IQS(10))	SCNTRL 94
C		SCNTRL 95
00087	EQUIVALENCE (IOMEGA .IQU(1))	SCNTRL 96
00088	EQUIVALENCE (IDIABAT .IQU(2))	SCNTRL 97
00089	EQUIVALENCE (IRADSW .IQU(3))	SCNTRL 98
C		SCNTRL 99
00090	EQUIVALENCE (IC0,IC(1))	SCNTRL 100
00091	INTEGER IC0, IC(200)	SCNTRL 101
C		SCNTRL 102
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL 103
C	=====	SCNTRL 104
00092	COMMON /LCNTRL/ LCO	SCNTRL 105
00093	COMMON /LCNTRL/ QALT	SCNTRL 106
00094	COMMON /LCNTRL/ QBEG	SCNTRL 107
00095	COMMON /LCNTRL/ QDAY	SCNTRL 108
00096	COMMON /LCNTRL/ QEND	SCNTRL 109
00097	COMMON /LCNTRL/ QOUT	SCNTRL 110
00098	COMMON /LCNTRL/ QPHY	SCNTRL 111
00099	COMMON /LCNTRL/ QSHF	SCNTRL 112
00100	COMMON /LCNTRL/ SN2FLG	SCNTRL 113
00101	COMMON /LCNTRL/ QRSW	SCNTRL 114
00102	COMMON /LCNTRL/ QRSH	SCNTRL 115
00103	COMMON /LCNTRL/ LQS(30)	SCNTRL 116
00104	COMMON /LCNTRL/ LQU(10)	SCNTRL 117
C		SCNTRL 118
00105	EQUIVALENCE (LTMIN .LQS(1))	SCNTRL 119
00106	EQUIVALENCE (LTMAX .LQS(2))	SCNTRL 120
00107	EQUIVALENCE (LPREACC .LQS(3))	SCNTRL 121
00108	EQUIVALENCE (LPRECON .LQS(4))	SCNTRL 122
00109	EQUIVALENCE (LHFLUX .LQS(5))	SCNTRL 123
00110	EQUIVALENCE (LEFLUX .LQS(6))	SCNTRL 124
00111	EQUIVALENCE (LFUSION .LQS(7))	SCNTRL 125
00112	EQUIVALENCE (LRADSWG .LQS(8))	SCNTRL 126
00113	EQUIVALENCE (LRADLWG .LQS(9))	SCNTRL 127
00114	EQUIVALENCE (LICLOUD .LQS(10))	SCNTRL 128
C		SCNTRL 129
00115	EQUIVALENCE (LOMEGA .LQU(1))	SCNTRL 130
00116	EQUIVALENCE (LDIABAT .LQU(2))	SCNTRL 131
00117	EQUIVALENCE (LRADSW .LQU(3))	SCNTRL 132
C		SCNTRL 133
00118	LOGICAL QALT	SCNTRL 134
00119	LOGICAL QBEG	SCNTRL 135
00120	LOGICAL QDAY	SCNTRL 136
00121	LOGICAL QEND	SCNTRL 137
00122	LOGICAL QOUT	SCNTRL 138
00123	LOGICAL QPHY	SCNTRL 139
00124	LOGICAL QSHF	SCNTRL 140
00125	LOGICAL SN2FLG	SCNTRL 141

00126	LOGICAL	QRSW	SCNTRL 142
00127	LOGICAL	QRSH	SCNTRL 143
	C		SCNTRL 144
00128	LOGICAL	LQS	SCNTRL 145
00129	LOGICAL	LQU	SCNTRL 146
00130	LOGICAL	LTMIN	SCNTRL 147
00131	LOGICAL	LTMAX	SCNTRL 148
00132	LOGICAL	LPREACC	SCNTRL 149
00133	LOGICAL	LPRECON	SCNTRL 150
00134	LOGICAL	LHFLUX	SCNTRL 151
00135	LOGICAL	LEFLUX	SCNTRL 152
00136	LOGICAL	LFUSION	SCNTRL 153
00137	LOGICAL	LRADSWG	SCNTRL 154
00138	LOGICAL	LRADLWG	SCNTRL 155
00139	LOGICAL	LICLOUD	SCNTRL 156
	C		SCNTRL 157
00140	LOGICAL	LOMEGA	SCNTRL 158
00141	LOGICAL	LDIABAT	SCNTRL 159
00142	LOGICAL	LRADSW	SCNTRL 160
	C		SCNTRL 161
00143	EQUIVALENCE	(LCO,LC(1))	SCNTRL 162
00144	LOGICAL	LCO, LC(200)	SCNTRL 163
	C		SCNTRL 164
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL 165
	C	=====	SCNTRL 166
00145	COMMON /RCNTRL/	RCO	SCNTRL 167
00146	COMMON /RCNTRL/	APHEL	SCNTRL 168
00147	COMMON /RCNTRL/	BETA	SCNTRL 169
00148	COMMON /RCNTRL/	COSO	SCNTRL 170
00149	COMMON /RCNTRL/	CP	SCNTRL 171
00150	COMMON /RCNTRL/	DAYSPLY	SCNTRL 172
00151	COMMON /RCNTRL/	DEC	SCNTRL 173
00152	COMMON /RCNTRL/	DECMAX	SCNTRL 174
00153	COMMON /RCNTRL/	DIST	SCNTRL 175
00154	COMMON /RCNTRL/	DLAT	SCNTRL 176
00155	COMMON /RCNTRL/	DLOH	SCNTRL 177
00156	COMMON /RCNTRL/	DT	SCNTRL 178
00157	COMMON /RCNTRL/	ECCN	SCNTRL 179
00158	COMMON /RCNTRL/	GNU1	SCNTRL 180
00159	COMMON /RCNTRL/	GNU2	SCNTRL 181
00160	COMMON /RCNTRL/	GRAV	SCNTRL 182
00161	COMMON /RCNTRL/	OMEGA2	SCNTRL 183
00162	COMMON /RCNTRL/	PI	SCNTRL 184
00163	COMMON /RCNTRL/	PI180	SCNTRL 185
00164	COMMON /RCNTRL/	PI2	SCNTRL 186
00165	COMMON /RCNTRL/	PSTD	SCNTRL 187
00166	COMMON /RCNTRL/	PIMEAN	SCNTRL 188
00167	COMMON /RCNTRL/	PSMAX	SCNTRL 189
00168	COMMON /RCNTRL/	PSMIN	SCNTRL 190
00169	COMMON /RCNTRL/	PTOP	SCNTRL 191
00170	COMMON /RCNTRL/	RADE	SCNTRL 192
00171	COMMON /RCNTRL/	RGAS	SCNTRL 193
00172	COMMON /RCNTRL/	ROCP	SCNTRL 194
00173	COMMON /RCNTRL/	RSDIST	SCNTRL 195
00174	COMMON /RCNTRL/	SDAY	SCNTRL 196
00175	COMMON /RCNTRL/	SEASON	SCNTRL 197
00176	COMMON /RCNTRL/	SIGE (25)	SCNTRL 198
00177	COMMON /RCNTRL/	SIND	SCNTRL 199
00178	COMMON /RCNTRL/	SOLS	SCNTRL 200
00179	COMMON /RCNTRL/	TSTD	SCNTRL 201
00180	COMMON /RCNTRL/	PLEVS (25)	SCNTRL 202
00181	COMMON /RCNTRL/	HEATW	SCNTRL 203
00182	COMMON /RCNTRL/	HEATI	SCNTRL 204
00183	COMMON /RCNTRL/	EPS	SCNTRL 205
00184	COMMON /RCNTRL/	EPSFAC	SCNTRL 206
00185	COMMON /RCNTRL/	CALTOJ	SCNTRL 207
00186	COMMON /RCNTRL/	PZERO	SCNTRL 208
	C		SCNTRL 209
00187	EQUIVALENCE	(RCO,RC(1))	SCNTRL 210
00188	REAL	RCO, RC(200)	SCNTRL 211
	C		SCNTRL 212

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C	INTEGER MODEL CONSTANTS		SCNTRL 213
C	=====		SCNTRL 214
00189	COMMON /IDPARM/ IJUMP (46)		SCNTRL 215
00190	COMMON /IDPARM/ IDSP02		SCNTRL 216
00191	COMMON /IDPARM/ INDEX (72)		SCNTRL 217
00192	COMMON /IDPARM/ IROD		SCNTRL 218
00193	COMMON /IDPARM/ JC (46)		SCNTRL 219
00194	COMMON /IDPARM/ JE (2)		SCNTRL 220
00195	COMMON /IDPARM/ JP (2.2)		SCNTRL 221
00196	COMMON /IDPARM/ KSTEP		SCNTRL 222
00197	COMMON /IDPARM/ MJ (46)		SCNTRL 223
00198	COMMON /IDPARM/ NHMS1		SCNTRL 224
00199	COMMON /IDPARM/ NYMD1		SCNTRL 225
C			SCNTRL 226
C	LOGICAL MODEL CONSTANTS		SCNTRL 227
C	=====		SCNTRL 228
00200	COMMON /LDPARM/ FILTER (46)		SCNTRL 229
00201	COMMON /LDPARM/ ITAPE		SCNTRL 230
00202	COMMON /LDPARM/ START		SCNTRL 231
C			SCNTRL 232
00203	LOGICAL FILTER		SCNTRL 233
00204	LOGICAL ITAPE		SCNTRL 234
00205	LOGICAL START		SCNTRL 235
C			SCNTRL 236
C	REAL MODEL CONSTANTS		SCNTRL 237
C	=====		SCNTRL 238
00206	COMMON /RDPARM/ ADLDP		SCNTRL 239
00207	COMMON /RDPARM/ CON1		SCNTRL 240
00208	COMMON /RDPARM/ CON1DT		SCNTRL 241
00209	COMMON /RDPARM/ CON2		SCNTRL 242
00210	COMMON /RDPARM/ CON2DT		SCNTRL 243
00211	COMMON /RDPARM/ CON3		SCNTRL 244
00212	COMMON /RDPARM/ CON3DT		SCNTRL 245
00213	COMMON /RDPARM/ CON4		SCNTRL 246
00214	COMMON /RDPARM/ CON4DT		SCNTRL 247
00215	COMMON /RDPARM/ CON5		SCNTRL 248
00216	COMMON /RDPARM/ COSL (46)		SCNTRL 249
00217	COMMON /RDPARM/ COSLON (72)		SCNTRL 250
00218	COMMON /RDPARM/ CPD2		SCNTRL 251
00219	COMMON /RDPARM/ DXF (46)		SCNTRL 252
00220	COMMON /RDPARM/ DXYP (46)		SCNTRL 253
00221	COMMON /RDPARM/ DYP (46)		SCNTRL 254
00222	COMMON /RDPARM/ FCORLS (46)		SCNTRL 255
00223	COMMON /RDPARM/ F1DT		SCNTRL 256
00224	COMMON /RDPARM/ F2DT		SCNTRL 257
00225	COMMON /RDPARM/ H1DT		SCNTRL 258
00226	COMMON /RDPARM/ H2DT		SCNTRL 259
00227	COMMON /RDPARM/ PKST0		SCNTRL 260
00228	COMMON /RDPARM/ PKTOP		SCNTRL 261
00229	COMMON /RDPARM/ RLAT (46)		SCNTRL 262
00230	COMMON /RDPARM/ RLATD (46)		SCNTRL 263
00231	COMMON /RDPARM/ ROCPDT		SCNTRL 264
00232	COMMON /RDPARM/ ROCPF1		SCNTRL 265
00233	COMMON /RDPARM/ SGNP (2)		SCNTRL 266
00234	COMMON /RDPARM/ SINL (46)		SCNTRL 267
00235	COMMON /RDPARM/ SINLON (72)		SCNTRL 268
00236	COMMON /RDPARM/ THSTD		SCNTRL 269
00237	COMMON /RDPARM/ THSTD2		SCNTRL 270
00238	COMMON /RDPARM/ WSAVE (159)		SCNTRL 271
00239	COMMON /RDPARM/ DSIG (9)		SCNTRL 272
00240	COMMON /RDPARM/ SIG (9)		SCNTRL 273
C			SCNTRL 274
00241	DIMENSION T01(19,5), T02(19,5), T03(19,19,5)		SO3INT 6
00242	DIMENSION T11(19), T12(19), T03(19,19)		SO3INT 6
C			SO3INT 7
00243	L2 = 19		SO3INT 8
00244	XLAT = ABS(RLATD(JALB))		SO3INT 9
C			SO3INT 10
00245	IF(XLAT.GE.75.0) GOTO 101		SO3INT 11
00246	IF(XLAT.GE.60.0) GOTO 102		SO3INT 12
00247	IF(XLAT.GE.45.0) GOTO 103		SO3INT 13

```

00248      IF( XLAT.GE.30.0 ) GOTO 104
00249      IF( XLAT.GE.15.0 ) GOTO 105
00250      GOTO 106

```

```

C
101 CONTINUE
DO 201 I=1,L2
T11(I) = T01(I,5)
T12(I) = T02(I,5)
DO 201 J=1,L2
T03(I,J) = TRO3(I,J,5)
201 CONTINUE
RETURN

```

```

C
102 CONTINUE
C1 = (XLAT-60.0)/15.0
C2 = 1.0-C1
DO 202 I=1,L2
T11(I) = C1*T01(I,5) + C2*T01(I,4)
T12(I) = C1*T02(I,5) + C2*T02(I,4)
DO 202 J=1,L2
T03(I,J) = C1*TRO3(I,J,5) + C2*TRO3(I,J,4)
202 CONTINUE
RETURN

```

```

C
103 CONTINUE
C1 = (XLAT-45.0)/15.0
C2 = 1.0-C1
DO 203 I=1,L2
T11(I) = C1*T01(I,4) + C2*T01(I,3)
T12(I) = C1*T02(I,4) + C2*T02(I,3)
DO 203 J=1,L2
T03(I,J) = C1*TRO3(I,J,4) + C2*TRO3(I,J,3)
203 CONTINUE
RETURN

```

```

C
104 CONTINUE
C1 = (XLAT-30.0)/15.0
C2 = 1.0-C1
DO 204 I=1,L2
T11(I) = C1*T01(I,3) + C2*T01(I,2)
T12(I) = C1*T02(I,3) + C2*T02(I,2)
DO 204 J=1,L2
T03(I,J) = C1*TRO3(I,J,3) + C2*TRO3(I,J,2)
204 CONTINUE
RETURN

```

```

C
105 CONTINUE
C1 = (XLAT-15.0)/15.0
C2 = 1.0-C1
DO 205 I=1,L2
T11(I) = C1*T01(I,2) + C2*T01(I,1)
T12(I) = C1*T02(I,2) + C2*T02(I,1)
DO 205 J=1,L2
T03(I,J) = C1*TRO3(I,J,2) + C2*TRO3(I,J,1)
205 CONTINUE
RETURN

```

```

C
106 CONTINUE
DO 206 I=1,L2
T11(I) = T01(I,1)
T12(I) = T02(I,1)
DO 206 J=1,L2
T03(I,J) = TRO3(I,J,1)
206 CONTINUE
RETURN

```

```

C
END

```

```

STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

```

```

S03INT 14
S03INT 15
S03INT 16
S03INT 17
S03INT 18
S03INT 19
S03INT 20
S03INT 21
S03INT 22
S03INT 23
S03INT 24
S03INT 25
S03INT 26
S03INT 27
S03INT 28
S03INT 29
S03INT 30
S03INT 31
S03INT 32
S03INT 33
S03INT 34
S03INT 35
S03INT 36
S03INT 37
S03INT 38
S03INT 39
S03INT 40
S03INT 41
S03INT 42
S03INT 43
S03INT 44
S03INT 45
S03INT 46
S03INT 47
S03INT 48
S03INT 49
S03INT 50
S03INT 51
S03INT 52
S03INT 53
S03INT 54
S03INT 55
S03INT 56
S03INT 57
S03INT 58
S03INT 59
S03INT 60
S03INT 61
S03INT 62
S03INT 63
S03INT 64
S03INT 65
S03INT 66
S03INT 67
S03INT 68
S03INT 69
S03INT 70
S03INT 71
S03INT 72
S03INT 73
S03INT 74
S03INT 75
S03INT 76
S03INT 77
S03INT 78
S03INT 79
S03INT 80

```

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101	251	245	
102	259	246	
103	269	247	
104	279	248	
105	289	249	
106	299	250	
201	257	252	255
202	267	252	265
203	277	272	275
204	287	282	285
205	297	292	295
206	305	300	303

VARIABLE MAP

```

VARIABLE MAP
--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

```

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

[illegible]

H1DT	RDPARM	REAL	SIMPLE	225										
H2DT	RDPARM	REAL	SIMPLE	226										
HEATI	RCNTRL	REAL	SIMPLE	182										
HEATW	RCNTRL	REAL	SIMPLE	181										
I		INTEGER	SIMPLE	252/C	253	253	254	254	256	256	262/C	263	263	263
				264	264	264	266	266	266	272/C	273	273	273	274
				274	274	275	276	276	282/C	283	283	283	284	284
				284	286	286	286	292/C	293	293	293	294	294	294
				296	296	296	300/C	301	301	302	302	304	304	
IC	ICNTRL	INTEGER	ARRAY	90	91									
ICO	ICNTRL	INTEGER	SIMPLE	25	90	91								
ICNTRL		INTEGER	UNKNOWN	25	26	27	28	29	30	31	32	33	34	35
				36	37	38	39	40	41	42	43	44	45	46
				47	48	49	50	51	52	53	54	55	56	57
				58	59	60	61	62	63	64	65	66	67	68
				69	70	71	72	73	74	75	76			
ICSP53	ICNTRL	INTEGER	SIMPLE	66										
ICSP55	ICNTRL	INTEGER	SIMPLE	68										
IDABAT	ICNTRL	INTEGER	UNKNOWN	88										
IDPARM		INTEGER	UNKNOWN	189	190	191	192	193	194	195	196	197	198	199
IDSP02	IDPARM	INTEGER	SIMPLE	190										
IEFLUX	ICNTRL	INTEGER	UNKNOWN	82										
IFUSION	ICNTRL	INTEGER	UNKNOWN	83										
IHFLUX	ICNTRL	INTEGER	UNKNOWN	81										
IICLOUD	ICNTRL	INTEGER	UNKNOWN	86										
IJUMP	IDPARM	INTEGER	ARRAY	189										
IM	ICNTRL	INTEGER	SIMPLE	26										
IMD2	ICNTRL	INTEGER	SIMPLE	27										
IMD2P1	ICNTRL	INTEGER	SIMPLE	28										
INDEX	IDPARM	INTEGER	ARRAY	191										
IONEGA	ICNTRL	INTEGER	UNKNOWN	87										
IPREACC	ICNTRL	INTEGER	UNKNOWN	79										
IPRECON	ICNTRL	INTEGER	UNKNOWN	80										
IQS	ICNTRL	INTEGER	ARRAY	75	77	78	79	80	81	82	83	84	85	86
IQU	ICNTRL	INTEGER	ARRAY	76	87	88	89							
IRADLWG	ICNTRL	INTEGER	UNKNOWN	85										
IRADSW	ICNTRL	INTEGER	UNKNOWN	89										
IRADSWG	ICNTRL	INTEGER	UNKNOWN	84										
IROD	IDPARM	INTEGER	SIMPLE	192										
ITAPE	IDPARM	LOGICAL	SIMPLE	201	204									
ITMAX	ICNTRL	INTEGER	UNKNOWN	78										
ITMIN	ICNTRL	INTEGER	UNKNOWN	77										
J		INTEGER	SIMPLE	255/C	256	256	265/C	266	266	266	275/C	276	276	276
				285/C	286	286	286	295/C	296	296	296	303/C	304	304
JALB		INTEGER	SIMPLE	1	244									
JC	IDPARM	INTEGER	ARRAY	193										
JE	IDPARM	INTEGER	ARRAY	194										
JIC	OCNTRL	CHAR*8	SIMPLE	5	18									
JM	ICNTRL	INTEGER	SIMPLE	30										
JMD2	ICNTRL	INTEGER	SIMPLE	31										
JMT2	ICNTRL	INTEGER	SIMPLE	32										
JNP	ICNTRL	INTEGER	SIMPLE	33										
JO4	ICNTRL	INTEGER	SIMPLE	34										
JO8	ICNTRL	INTEGER	SIMPLE	35										
JO8	OCNTRL	CHAR*8	SIMPLE	6	19									
JP	IDPARM	INTEGER	ARRAY	195										
JSP	ICNTRL	INTEGER	SIMPLE	36										
KLIAIB	ICNTRL	INTEGER	SIMPLE	37										
KLIW	ICNTRL	INTEGER	SIMPLE	38										
KLISS	ICNTRL	INTEGER	SIMPLE	39										
KS	ICNTRL	INTEGER	SIMPLE	40										
KSTEP	IDPARM	INTEGER	SIMPLE	196										
KU	ICNTRL	INTEGER	SIMPLE	41										
L2		INTEGER	SIMPLE	243/S	252	255	262	265	272	275	282	285	292	295
LC	LCNTRL	LOGICAL	ARRAY	300	303									
LC0	LCNTRL	LOGICAL	SIMPLE	143	144									
LCNTRL		INTEGER	UNKNOWN	92	143	144								
				92	93	94	95	96	97	98	99	100	101	102
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	103	104									
				116	141									

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03INT 7

LDPARM		INTEGER	UNKNOWN	200	201	202												
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	110	135													
LFUSION	LCNTRL	LOGICAL	UNKNOWN	111	136													
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	109	134													
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	139													
LOGBR	ICNTRL	INTEGER	SIMPLE	42														
LWEGA	LCNTRL	LOGICAL	UNKNOWN	115	140													
LPRACC	LCNTRL	LOGICAL	UNKNOWN	107	132													
LPRECON	LCNTRL	LOGICAL	UNKNOWN	108	133													
LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114				
				128														
LQU	LCNTRL	LOGICAL	ARRAY	104	115	116	117	129										
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138													
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	142													
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	112	137													
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131													
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130													
MATIN	ICNTRL	INTEGER	SIMPLE	43														
MATSNX	ICNTRL	INTEGER	SIMPLE	44														
MATSUN	ICNTRL	INTEGER	SIMPLE	45														
MJ	IDPARM	INTEGER	ARRAY	197														
MLF	ICNTRL	INTEGER	ARRAY	46														
MRQD	ICNTRL	INTEGER	SIMPLE	47														
MSM	ICNTRL	INTEGER	SIMPLE	49														
NB	ICNTRL	INTEGER	SIMPLE	50														
ND	ICNTRL	INTEGER	SIMPLE	51														
NDALT	ICNTRL	INTEGER	SIMPLE	52														
NDAY	ICNTRL	INTEGER	SIMPLE	53														
NDHOG	ICNTRL	INTEGER	SIMPLE	74														
NDOUT	ICNTRL	INTEGER	SIMPLE	54														
NDPHY	ICNTRL	INTEGER	SIMPLE	55														
NDRSW	ICNTRL	INTEGER	SIMPLE	29														
NDSHF	ICNTRL	INTEGER	SIMPLE	56														
NDT	ICNTRL	INTEGER	SIMPLE	57														
NHMS	ICNTRL	INTEGER	SIMPLE	58														
NHMSO	ICNTRL	INTEGER	SIMPLE	60														
NHMS1	IDPARM	INTEGER	SIMPLE	198														
NHMSE	ICNTRL	INTEGER	SIMPLE	59														
NKRSH	ICNTRL	INTEGER	SIMPLE	48														
NLAY	ICNTRL	INTEGER	SIMPLE	61														
NLAYM1	ICNTRL	INTEGER	SIMPLE	62														
NLAYP1	ICNTRL	INTEGER	SIMPLE	63														
NMLEV	ICNTRL	INTEGER	SIMPLE	73														
NSDAY	ICNTRL	INTEGER	SIMPLE	64														
NSEQ	ICNTRL	INTEGER	SIMPLE	65														
NSTEP	ICNTRL	INTEGER	SIMPLE	67														
NYMD	ICNTRL	INTEGER	SIMPLE	69														
NYMD0	ICNTRL	INTEGER	SIMPLE	71														
NYMD1	IDPARM	INTEGER	SIMPLE	199														
NYMDE	ICNTRL	INTEGER	SIMPLE	70														
NZINIT	ICNTRL	INTEGER	SIMPLE	72														
O3INT			SUBROUTINE	1														
OMEGA2	RCNTRL	REAL	SIMPLE	161														
PI	RCNTRL	REAL	SIMPLE	162														
PI180	RCNTRL	REAL	SIMPLE	163														
PI2	RCNTRL	REAL	SIMPLE	164														
PMEAN	RCNTRL	REAL	SIMPLE	166														
PKSTD	RDPARM	REAL	SIMPLE	227														
PKTOP	RDPARM	REAL	SIMPLE	228														
PLEVS	RCNTRL	REAL	ARRAY	180														
PSMAX	RCNTRL	REAL	SIMPLE	167														
PSMIN	RCNTRL	REAL	SIMPLE	168														
PSTD	RCNTRL	REAL	SIMPLE	165														
PTOP	RCNTRL	REAL	SIMPLE	169														
PZERO	RCNTRL	REAL	SIMPLE	186														
QALT	LCNTRL	LOGICAL	SIMPLE	93	118													
QBEG	LCNTRL	LOGICAL	SIMPLE	94	119													
QDAY	LCNTRL	LOGICAL	SIMPLE	95	120													
QEND	LCNTRL	LOGICAL	SIMPLE	96	121													
QOUT	LCNTRL	LOGICAL	SIMPLE	97	122													

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QPHY	LCNTRL	LOGICAL	SIMPLE	98	123														
QRSH	LCNTRL	LOGICAL	SIMPLE	102	127														
QRSW	LCNTRL	LOGICAL	SIMPLE	101	126														
QSHF	LCNTRL	LOGICAL	SIMPLE	99	124														
RADE	RCNTRL	REAL	SIMPLE	170															
RC	RCNTRL	REAL	ARRAY	187	188														
RCO	RCNTRL	REAL	SIMPLE	145	187	188													
RCNTRL		REAL	UNKNOWN	145	146	147	148	149	150	151	152	153	154	155					
				156	157	158	159	160	161	162	163	164	165	166					
				167	168	169	170	171	172	173	174	175	176	177					
				178	179	180	181	182	183	184	185	186							
RDPARM		REAL	UNKNOWN	206	207	208	209	210	211	212	213	214	215	216					
				217	218	219	220	221	222	223	224	225	226	227					
				228	229	230	231	232	233	234	235	236	237	238					
				239	240														
RGAS	RCNTRL	REAL	SIMPLE	171															
RLAT	RDPARM	REAL	ARRAY	229															
RLATD	RDPARM	REAL	ARRAY	230	244														
ROCP	RCNTRL	REAL	SIMPLE	172															
ROCPDT	RDPARM	REAL	SIMPLE	231															
ROCPP1	RDPARM	REAL	SIMPLE	232															
RSDIST	RCNTRL	REAL	SIMPLE	173															
SDAY	RCNTRL	REAL	SIMPLE	174															
SEASON	RCNTRL	REAL	SIMPLE	175															
SGNP	RDPARM	REAL	ARRAY	233															
SIG	RDPARM	REAL	ARRAY	240															
SIGE	RCNTRL	REAL	ARRAY	176															
SIND	RCNTRL	REAL	SIMPLE	177															
SINL	RDPARM	REAL	ARRAY	234															
SINLON	RDPARM	REAL	ARRAY	235															
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125														
SOLS	RCNTRL	REAL	SIMPLE	178															
START	LDPARAM	LOGICAL	SIMPLE	202	205														
THSTD	RDPARM	REAL	SIMPLE	236															
THSTD2	RDPARM	REAL	SIMPLE	237															
TI1		REAL	ARRAY	1	242	253/S	263/S	273/S	283/S	293/S	301/S								
TI2		REAL	ARRAY	1	242	254/S	264/S	274/S	284/S	294/S	302/S								
TO1		REAL	ARRAY	1	241	253	263	263	273	273	283	283	293	293					
				301															
TO2		REAL	ARRAY	1	241	254	264	264	274	274	284	284	294	294					
				302															
TO3		REAL	ARRAY	1	242	256/S	266/S	276/S	286/S	296/S	304/S								
TRO3		REAL	ARRAY	1	241	256	266	266	276	276	286	286	296	296					
				304															
TSTD	RCNTRL	REAL	SIMPLE	179															
VER	CCNTRL	CHAR*8	SIMPLE	10	23														
WSAVE	RDPARM	REAL	ARRAY	238															
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24														
XLAT		REAL	SIMPLE	244/S	245	246	247	248	249	250	270	280	290						

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES
ABS	REAL	INTRINSIC	244

D=STMT FN DEF, A=ARGLIST

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00001

FUNCTION PMEAN (N)

PURPOSE

CALCULATES GLOBAL MEAN SURFACE PRESSURE FOR FOURTH ORDER MODEL.
CALLED BY ONLY

USAGE

ARGUMENTS

DESCRIPTION
N PRESSURE TIME LEVEL
PMEAN GLOBAL MEAN PRESSURE RETURNED

SUBPROGRAMS NEEDED

NAME DESCRIPTION
NONERECORD OF MODIFICATIONS
BASED ON OLD VERSION 8.?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS?
05/04/83 RAMESH THIS PART AND COMMENTS

REMARKS:

1) ?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.?

M / A - C O M S I G M A D A T A I N C . N A S A - G S F C

CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD

=====

COMMON /CCNTRL/ CCO
COMMON /CCNTRL/ ADATE
COMMON /CCNTRL/ ATIME
COMMON /CCNTRL/ JIC
COMMON /CCNTRL/ JOB
COMMON /CCNTRL/ CCSP06
COMMON /CCNTRL/ CCSP07
COMMON /CCNTRL/ CCSP08
COMMON /CCNTRL/ VER
COMMON /CCNTRL/ XLABEL (10)
COMMON /CCNTRL/ CQS (30)
COMMON /CCNTRL/ CQU (10)EQUIVALENCE (CC0,CC(1))
CHARACTER*8 CC0, CC(200)
CHARACTER*8 ADATE
CHARACTER*8 ATIME
CHARACTER*8 JIC
CHARACTER*8 JOB
CHARACTER*8 CCSP06
CHARACTER*8 CCSP07
CHARACTER*8 CCSP08
CHARACTER*8 VER
CHARACTER*8 XLABEL

INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD

=====

COMMON /ICNTRL/ ICO
COMMON /ICNTRL/ IM
COMMON /ICNTRL/ IMD2
COMMON /ICNTRL/ IMD2P1
COMMON /ICNTRL/ NDRSW
COMMON /ICNTRL/ JM
COMMON /ICNTRL/ JMD2
COMMON /ICNTRL/ JMT2
COMMON /ICNTRL/ JNP
COMMON /ICNTRL/ JO4
COMMON /ICNTRL/ JO8
COMMON /ICNTRL/ JSP
COMMON /ICNTRL/ KLIALBSPMEAN 2
SPMEAN 3
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SCNTRL 44ORIGINAL PAGE IS
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00038	COMMON /ICNTRL/ KLIW	SCNTRL 45
00039	COMMON /ICNTRL/ KLISS	SCNTRL 46
00040	COMMON /ICNTRL/ KS	SCNTRL 47
00041	COMMON /ICNTRL/ KU	SCNTRL 48
00042	COMMON /ICNTRL/ LOGBR	SCNTRL 49
00043	COMMON /ICNTRL/ MATIN	SCNTRL 50
00044	COMMON /ICNTRL/ MATSNX	SCNTRL 51
00045	COMMON /ICNTRL/ MATSUN	SCNTRL 52
00046	COMMON /ICNTRL/ MLF (12)	SCNTRL 53
00047	COMMON /ICNTRL/ MRD	SCNTRL 54
00048	COMMON /ICNTRL/ NKRSH	SCNTRL 55
00049	COMMON /ICNTRL/ MSM	SCNTRL 56
00050	COMMON /ICNTRL/ NB	SCNTRL 57
00051	COMMON /ICNTRL/ ND	SCNTRL 58
00052	COMMON /ICNTRL/ NDALT	SCNTRL 59
00053	COMMON /ICNTRL/ NDAY	SCNTRL 60
00054	COMMON /ICNTRL/ NDOUT	SCNTRL 61
00055	COMMON /ICNTRL/ NDRHY	SCNTRL 62
00056	COMMON /ICNTRL/ NDSHF	SCNTRL 63
00057	COMMON /ICNTRL/ NDT	SCNTRL 64
00058	COMMON /ICNTRL/ NHMS	SCNTRL 65
00059	COMMON /ICNTRL/ NHMSE	SCNTRL 66
00060	COMMON /ICNTRL/ NHMSO	SCNTRL 67
00061	COMMON /ICNTRL/ NLAY	SCNTRL 68
00062	COMMON /ICNTRL/ NLAYM1	SCNTRL 69
00063	COMMON /ICNTRL/ NLAYP1	SCNTRL 70
00064	COMMON /ICNTRL/ NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
C		
00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 84
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 85
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 86
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 87
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 88
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 89
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 90
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 91
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 92
00086	EQUIVALENCE (ICLOUD ,IQS(10))	SCNTRL 93
C		
00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 94
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 95
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 96
C		
00090	EQUIVALENCE (IC0,IC(1))	SCNTRL 97
00091	INTEGER IC0, IC(200)	SCNTRL 98
C		
C LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD		
C =====		
00092	COMMON /LCNTRL/ LCO	SCNTRL 99
00093	COMMON /LCNTRL/ QALT	SCNTRL 100
00094	COMMON /LCNTRL/ QBEG	SCNTRL 101
00095	COMMON /LCNTRL/ QDAY	SCNTRL 102
00096	COMMON /LCNTRL/ QEND	SCNTRL 103
00097	COMMON /LCNTRL/ QOUT	SCNTRL 104
00098	COMMON /LCNTRL/ QPHY	SCNTRL 105
00099	COMMON /LCNTRL/ QSHF	SCNTRL 106
00100	COMMON /LCNTRL/ SN2FLG	SCNTRL 107
00101	COMMON /LCNTRL/ QRSW	SCNTRL 108
00102	COMMON /LCNTRL/ QRSH	SCNTRL 109
		SCNTRL 110
		SCNTRL 111
		SCNTRL 112
		SCNTRL 113
		SCNTRL 114
		SCNTRL 115

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00103	COMMON /LCNTRL/	LQS(30)	SCNTRL 116
00104	COMMON /LCNTRL/	LQU(10)	SCNTRL 117
00105	C	EQUIVALENCE (LTMIN ,LQS(1))	SCNTRL 118
00106		EQUIVALENCE (LTMAX ,LQS(2))	SCNTRL 119
00107		EQUIVALENCE (LPREACC ,LQS(3))	SCNTRL 120
00108		EQUIVALENCE (LPRECON ,LQS(4))	SCNTRL 121
00109		EQUIVALENCE (LHFLUX ,LQS(5))	SCNTRL 122
00110		EQUIVALENCE (LEFLUX ,LQS(6))	SCNTRL 123
00111		EQUIVALENCE (LFUSION ,LQS(7))	SCNTRL 124
00112		EQUIVALENCE (LRADSWG ,LQS(8))	SCNTRL 125
00113		EQUIVALENCE (LRADLWG ,LQS(9))	SCNTRL 126
00114		EQUIVALENCE (LICLOUD ,LQS(10))	SCNTRL 127
00115	C	EQUIVALENCE (LOMEGA ,LQU(1))	SCNTRL 128
00116		EQUIVALENCE (LDIABAT ,LQU(2))	SCNTRL 129
00117		EQUIVALENCE (LRADSW ,LQU(3))	SCNTRL 130
00118	C	LOGICAL QALT	SCNTRL 131
00119		LOGICAL QBEG	SCNTRL 132
00120		LOGICAL QDAY	SCNTRL 133
00121		LOGICAL QEND	SCNTRL 134
00122		LOGICAL QOUT	SCNTRL 135
00123		LOGICAL QPHY	SCNTRL 136
00124		LOGICAL QSHF	SCNTRL 137
00125		LOGICAL SN2FLG	SCNTRL 138
00126		LOGICAL QRSW	SCNTRL 139
00127		LOGICAL QRSW	SCNTRL 140
00128	C	LOGICAL LQS	SCNTRL 141
00129		LOGICAL LQU	SCNTRL 142
00130		LOGICAL LTMIN	SCNTRL 143
00131		LOGICAL LTMAX	SCNTRL 144
00132		LOGICAL LPREACC	SCNTRL 145
00133		LOGICAL LPRECON	SCNTRL 146
00134		LOGICAL LHFLUX	SCNTRL 147
00135		LOGICAL LEFLUX	SCNTRL 148
00136		LOGICAL LFUSION	SCNTRL 149
00137		LOGICAL LRADSWG	SCNTRL 150
00138		LOGICAL LRADLWG	SCNTRL 151
00139		LOGICAL LICLOUD	SCNTRL 152
00140	C	LOGICAL LOMEGA	SCNTRL 153
00141		LOGICAL LDIABAT	SCNTRL 154
00142		LOGICAL LRADSW	SCNTRL 155
00143	C	EQUIVALENCE (LC0,LC(1))	SCNTRL 156
00144		LOGICAL LC0, LC(200)	SCNTRL 157
00145	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL 158
00146	C	=====	SCNTRL 159
00147		COMMON /RCNTRL/ RCO	SCNTRL 160
00148		COMMON /RCNTRL/ APHEL	SCNTRL 161
00149		COMMON /RCNTRL/ BETA	SCNTRL 162
00150		COMMON /RCNTRL/ COSD	SCNTRL 163
00151		COMMON /RCNTRL/ GP	SCNTRL 164
00152		COMMON /RCNTRL/ DAYSPY	SCNTRL 165
00153		COMMON /RCNTRL/ DEC	SCNTRL 166
00154		COMMON /RCNTRL/ DECMAX	SCNTRL 167
00155		COMMON /RCNTRL/ DIST	SCNTRL 168
00156		COMMON /RCNTRL/ DLAT	SCNTRL 169
00157		COMMON /RCNTRL/ DLON	SCNTRL 170
00158		COMMON /RCNTRL/ DT	SCNTRL 171
00159		COMMON /RCNTRL/ ECCN	SCNTRL 172
00160		COMMON /RCNTRL/ GNU1	SCNTRL 173
00161		COMMON /RCNTRL/ GNU2	SCNTRL 174
00162		COMMON /RCNTRL/ GRAV	SCNTRL 175
00163		COMMON /RCNTRL/ OMEGA2	SCNTRL 176
00164		COMMON /RCNTRL/ PI	SCNTRL 177
		COMMON /RCNTRL/ PI180	SCNTRL 178
		COMMON /RCNTRL/ PI2	SCNTRL 179
			SCNTRL 180
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			SCNTRL 186

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00165 COMMON /RCNTRL/ PSTD
00166 COMMON /RCNTRL/ PIMEAN
00167 COMMON /RCNTRL/ PSMAX
00168 COMMON /RCNTRL/ PSMIN
00169 COMMON /RCNTRL/ PTOP
00170 COMMON /RCNTRL/ RADE
00171 COMMON /RCNTRL/ RGAS
00172 COMMON /RCNTRL/ ROCP
00173 COMMON /RCNTRL/ RSDIST
00174 COMMON /RCNTRL/ SDAY
00175 COMMON /RCNTRL/ SEASON
00176 COMMON /RCNTRL/ SIGE (25)
00177 COMMON /RCNTRL/ SIND
00178 COMMON /RCNTRL/ SOLS
00179 COMMON /RCNTRL/ TSTD
00180 COMMON /RCNTRL/ PLEVS (25)
00181 COMMON /RCNTRL/ HEATW
00182 COMMON /RCNTRL/ HEATI
00183 COMMON /RCNTRL/ EPS
00184 COMMON /RCNTRL/ EPSFAC
00185 COMMON /RCNTRL/ CALTOJ
00186 COMMON /RCNTRL/ PZERO

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C EQUIVALENCE (RCO,RC(1))
00187 REAL RCO, RC(200)
00188

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INTEGER MODEL CONSTANTS

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=====
00189 COMMON /IDPARM/ IJUMP (46)
00190 COMMON /IDPARM/ IDSP02
00191 COMMON /IDPARM/ INDEX (72)
00192 COMMON /IDPARM/ IROD
00193 COMMON /IDPARM/ JC (46)
00194 COMMON /IDPARM/ JE (2)
00195 COMMON /IDPARM/ JP (2,2)
00196 COMMON /IDPARM/ KSTEP
00197 COMMON /IDPARM/ MJ (46)
00198 COMMON /IDPARM/ NHMS1
00199 COMMON /IDPARM/ NYMD1

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LOGICAL MODEL CONSTANTS

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=====
00200 COMMON /LDPARM/ FILTER (46)
00201 COMMON /LDPARM/ ITAPE
00202 COMMON /LDPARM/ START

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C LOGICAL FILTER
00203 LOGICAL ITAPE
00204 LOGICAL START
00205

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REAL MODEL CONSTANTS

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=====
00206 COMMON /RDPARM/ ADLDP
00207 COMMON /RDPARM/ CON1
00208 COMMON /RDPARM/ CON1DT
00209 COMMON /RDPARM/ CON2
00210 COMMON /RDPARM/ CON2DT
00211 COMMON /RDPARM/ CON3
00212 COMMON /RDPARM/ CON3DT
00213 COMMON /RDPARM/ CON4
00214 COMMON /RDPARM/ CON4DT
00215 COMMON /RDPARM/ CON5
00216 COMMON /RDPARM/ COSL (46)
00217 COMMON /RDPARM/ COSLON (72)
00218 COMMON /RDPARM/ CPD2
00219 COMMON /RDPARM/ DXP (46)
00220 COMMON /RDPARM/ DXYP (46)
00221 COMMON /RDPARM/ DYP (46)
00222 COMMON /RDPARM/ FCORLS (46)
00223 COMMON /RDPARM/ F1DT
00224 COMMON /RDPARM/ F2DT

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SCNTRL 187
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00225 COMMON /RDPARM/ H1DT
 00226 COMMON /RDPARM/ H2DT
 00227 COMMON /RDPARM/ PKSTD
 00228 COMMON /RDPARM/ PKTOP
 00229 COMMON /RDPARM/ RLAT (46)
 00230 COMMON /RDPARM/ RLATD (46)
 00231 COMMON /RDPARM/ ROCPTD
 00232 COMMON /RDPARM/ ROCPP1
 00233 COMMON /RDPARM/ SGNP (2)
 00234 COMMON /RDPARM/ SINL (46)
 00235 COMMON /RDPARM/ SINLON (72)
 00236 COMMON /RDPARM/ THSTD
 00237 COMMON /RDPARM/ THSTD2
 00238 COMMON /RDPARM/ WSAVE (159)
 00239 COMMON /RDPARM/ DSIG (9)
 00240 COMMON /RDPARM/ SIG (9)

C

C * * *

C GLOBAL MODEL SURFACE FIELDS

00241 COMMON /QANDQT/ QS(72,19,46)

C

00242 DIMENSION PHIS(1368,1)
 00243 DIMENSION SMTH(1368,23)
 00244 DIMENSION ALBEDO(1368,1)
 00245 DIMENSION GT(1368,1)
 00246 DIMENSION GW(1368,1)
 00247 DIMENSION TS(1368,1)
 00248 DIMENSION SHS(1368,1)
 00249 DIMENSION P(72,19,1)
 00250 DIMENSION TMIN(1368,1)
 00251 DIMENSION TMAX(1368,1)
 00252 DIMENSION PREACC(1368,1)
 00253 DIMENSION PRECON(1368,1)
 00254 DIMENSION HFLUX(1368,1)
 00255 DIMENSION EFLUX(1368,1)
 00256 DIMENSION FUSION(1368,1)
 00257 DIMENSION RADSWG(1368,1)
 00258 DIMENSION RADLWG(1368,1)
 00259 DIMENSION ICLOUD(1368,1)

C

00260 EQUIVALENCE (QS(1,1,1),PHIS(1,1))
 00261 EQUIVALENCE (QS(1,2,1),SMTH(1,1))
 00262 EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))
 00263 EQUIVALENCE (QS(1,4,1),GT(1,1))
 00264 EQUIVALENCE (QS(1,5,1),GW(1,1))
 00265 EQUIVALENCE (QS(1,6,1),TS(1,1))
 00266 EQUIVALENCE (QS(1,7,1),SHS(1,1))
 00267 EQUIVALENCE (QS(1,8,1),P(1,1,1))
 00268 EQUIVALENCE (QS(1,10,1),TMIN(1,1))
 00269 EQUIVALENCE (QS(1,11,1),TMAX(1,1))
 00270 EQUIVALENCE (QS(1,12,1),PREACC(1,1))
 00271 EQUIVALENCE (QS(1,13,1),PRECON(1,1))
 00272 EQUIVALENCE (QS(1,14,1),HFLUX(1,1))
 00273 EQUIVALENCE (QS(1,15,1),EFLUX(1,1))
 00274 EQUIVALENCE (QS(1,16,1),FUSION(1,1))
 00275 EQUIVALENCE (QS(1,17,1),RADSWG(1,1))
 00276 EQUIVALENCE (QS(1,18,1),RADLWG(1,1))
 00277 EQUIVALENCE (QS(1,19,1),ICLOUD(1,1))

C

C * * *

C GLOBAL MODEL UPPER-AIR FIELDS

00278 COMMON /QANDQT/ QU(72,9,14,46)

C

00279 DIMENSION U(72,9,14,1)
 00280 DIMENSION V(72,9,14,1)
 00281 DIMENSION T(72,9,14,1)
 00282 DIMENSION SH(72,9,14,1)
 00283 DIMENSION PHI(72,9,14,1)
 00284 DIMENSION OMEGA(72,126,1)
 00285 DIMENSION DIABAT(72,126,1)
 00286 DIMENSION RADSW(72,126,1)
 00287 DIMENSION RADLW(72,126,1)

SCNTRL 258
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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10	311	309
10000	298	
20	316	307
5	303	299

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

[illegible]

[illegible]

RLATD	RDPARM	REAL	ARRAY	230			
ROCP	RCNTRL	REAL	SIMPLE	172			
ROCPDT	RDPARM	REAL	SIMPLE	231			
ROCPP1	RDPARM	REAL	SIMPLE	232			
RSDIST	RCNTRL	REAL	SIMPLE	173			
SAREA		REAL	SIMPLE	304/S	314/S	314	317
SDAY	RCNTRL	REAL	SIMPLE	174			
SEASON	RCNTRL	REAL	SIMPLE	175			
SGNP	RDPARM	REAL	ARRAY	233			
SH	QANDQT	REAL	ARRAY	282	291		
SHS	QANDQT	REAL	ARRAY	248	266		
SIG	RDPARM	REAL	ARRAY	240			
SIGE	RCNTRL	REAL	ARRAY	176			
SIND	RCNTRL	REAL	SIMPLE	177			
SINL	RDPARM	REAL	ARRAY	234			
SINLON	RDPARM	REAL	ARRAY	235			
SMASS		REAL	SIMPLE	305/S	315/S	315	317
SMTH	QANDQT	REAL	ARRAY	243	261		
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125		
SOLS	RCNTRL	REAL	SIMPLE	178			
SPRESS		REAL	SIMPLE	308/S	310/S	310	315
START	LDPARM	LOGICAL	SIMPLE	202	205		
T	QANDQT	REAL	ARRAY	281	290		
THSTD	RDPARM	REAL	SIMPLE	236			
THSTD2	RDPARM	REAL	SIMPLE	237			
TMAX	QANDQT	REAL	ARRAY	251	269		
TMIN	QANDQT	REAL	ARRAY	250	268		
TS	QANDQT	REAL	ARRAY	247	265		
TSTD	RCNTRL	REAL	SIMPLE	179			
U	QANDQT	REAL	ARRAY	279	288		
V	QANDQT	REAL	ARRAY	280	289		
VER	CCNTRL	CHAR*8	SIMPLE	10	23		
WSAVE	RDPARM	REAL	ARRAY	238			
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24		

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT FN DEF, A=ARGLIST
ACOS	REAL	INTRINSIC	301	
COS	REAL	INTRINSIC	302	313
SIN	REAL	INTRINSIC	302	

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00001 SUBROUTINE POLINP (N, M)
C .....
C PURPOSE
C COPIES POLE VALUES FROM GLOBAL MODEL ARRAY Q
C INTO STEREOGRAPHIC POLE ARRAY QP
C OR
C COPIES STEREOGRAPHIC POLE VALUES FROM QP
C BACK INTO GLOBAL MODEL ARRAY Q.
C CALLED BY INPUT, AND MAIN (GWSGCM) ONLY
C .....
C USAGE
C .....
C ARGUMENTS      DESCRIPTION
C   N             TIME STEP POINTER
C   M             POLE FLAG, =1 FOR SOUTH POLE, =2 FOR NORTH POLE
C .....
C SUBPROGRAMS NEEDED
C   NAME          DESCRIPTION
C .....
C RECORD OF MODIFICATIONS
C   BASED ON OLD VERSION 8.
C   ?DATE?       ?PROGRAMMER?   ?DESCRIPTION OF MODIFICATIONS?
C   05/04/83     RAMESH         THIS PART AND COMMENTS
C .....
C REMARKS:
C   ( 1 ) NOTE ENTRY POINT POLOUT.
C   ( 2 ) ?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.?
C .....
C M / A - C O M S I G M A   D A T A   I N C .   N A S A   -   G S F C
C .....
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C .....
00002 COMMON /CCNTRL/ CC0
00003 COMMON /CCNTRL/ ADATE
00004 COMMON /CCNTRL/ ATIME
00005 COMMON /CCNTRL/ JIC
00006 COMMON /CCNTRL/ JOB
00007 COMMON /CCNTRL/ CCSP06
00008 COMMON /CCNTRL/ CCSP07
00009 COMMON /CCNTRL/ CCSP08
00010 COMMON /CCNTRL/ VER
00011 COMMON /CCNTRL/ XLABEL (10)
00012 COMMON /CCNTRL/ CQS (30)
00013 COMMON /CCNTRL/ CQU (10)
C .....
00014 EQUIVALENCE (CC0,CC(1))
00015 CHARACTER*8 CC0, CC(200)
00016 CHARACTER*8 ADATE
00017 CHARACTER*8 ATIME
00018 CHARACTER*8 JIC
00019 CHARACTER*8 JOB
00020 CHARACTER*8 CCSP06
00021 CHARACTER*8 CCSP07
00022 CHARACTER*8 CCSP08
00023 CHARACTER*8 VER
00024 CHARACTER*8 XLABEL
C .....
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C .....
00025 COMMON /ICNTRL/ IC0
00026 COMMON /ICNTRL/ IM
00027 COMMON /ICNTRL/ IMD2
00028 COMMON /ICNTRL/ IMD2PI
00029 COMMON /ICNTRL/ NDRSW
00030 COMMON /ICNTRL/ JM
00031 COMMON /ICNTRL/ JMD2
00032 COMMON /ICNTRL/ JMT2
00033 COMMON /ICNTRL/ JNP

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SPOLINP 2
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SCNTRL 38
SCNTRL 39
SCNTRL 40

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00034	COMMON /ICNTRL/ JO4	SCNTRL 41
00035	COMMON /ICNTRL/ JO8	SCNTRL 42
00036	COMMON /ICNTRL/ JSP	SCNTRL 43
00037	COMMON /ICNTRL/ KLIALB	SCNTRL 44
00038	COMMON /ICNTRL/ KLIW	SCNTRL 45
00039	COMMON /ICNTRL/ KLISST	SCNTRL 46
00040	COMMON /ICNTRL/ KS	SCNTRL 47
00041	COMMON /ICNTRL/ KU	SCNTRL 48
00042	COMMON /ICNTRL/ LOGBR	SCNTRL 49
00043	COMMON /ICNTRL/ MATIN	SCNTRL 50
00044	COMMON /ICNTRL/ MATSNX	SCNTRL 51
00045	COMMON /ICNTRL/ MATSUN	SCNTRL 52
00046	COMMON /ICNTRL/ MLF (12)	SCNTRL 53
00047	COMMON /ICNTRL/ MRD	SCNTRL 54
00048	COMMON /ICNTRL/ NKRSH	SCNTRL 55
00049	COMMON /ICNTRL/ MSM	SCNTRL 56
00050	COMMON /ICNTRL/ NB	SCNTRL 57
00051	COMMON /ICNTRL/ ND	SCNTRL 58
00052	COMMON /ICNTRL/ NDALT	SCNTRL 59
00053	COMMON /ICNTRL/ NDAY	SCNTRL 60
00054	COMMON /ICNTRL/ NDOUT	SCNTRL 61
00055	COMMON /ICNTRL/ NDPHY	SCNTRL 62
00056	COMMON /ICNTRL/ NDSHF	SCNTRL 63
00057	COMMON /ICNTRL/ NDT	SCNTRL 64
00058	COMMON /ICNTRL/ NHMS	SCNTRL 65
00059	COMMON /ICNTRL/ NHMSE	SCNTRL 66
00060	COMMON /ICNTRL/ NHMSO	SCNTRL 67
00061	COMMON /ICNTRL/ NLAY	SCNTRL 68
00062	COMMON /ICNTRL/ NLAYM1	SCNTRL 69
00063	COMMON /ICNTRL/ NLAYP1	SCNTRL 70
00064	COMMON /ICNTRL/ NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
C		SCNTRL 84
00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 85
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 86
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 87
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 88
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 89
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 91
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 92
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 93
00086	EQUIVALENCE (IICLOUD ,IQS(10))	SCNTRL 94
C		SCNTRL 95
00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 96
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 97
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 98
C		SCNTRL 99
00090	EQUIVALENCE (IC0,IC(1))	SCNTRL 100
00091	INTEGER IC0, IC(200)	SCNTRL 101
C		SCNTRL 102
C LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD		SCNTRL 103
C =====		SCNTRL 104
00092	COMMON /LCNTRL/ LCO	SCNTRL 105
00093	COMMON /LCNTRL/ QALT	SCNTRL 106
00094	COMMON /LCNTRL/ QBEG	SCNTRL 107
00095	COMMON /LCNTRL/ QDAY	SCNTRL 108
00096	COMMON /LCNTRL/ QEND	SCNTRL 109
00097	COMMON /LCNTRL/ QOUT	SCNTRL 110
00098	COMMON /LCNTRL/ QPHY	SCNTRL 111

00161	COMMON /RCNTRL/ OMEGA2	SCNTRL 183
00162	COMMON /RCNTRL/ P1	SCNTRL 184
00163	COMMON /RCNTRL/ P1180	SCNTRL 185
00164	COMMON /RCNTRL/ P12	SCNTRL 186
00165	COMMON /RCNTRL/ PSTD	SCNTRL 187
00166	COMMON /RCNTRL/ PIMEAN	SCNTRL 188
00167	COMMON /RCNTRL/ PSMAX	SCNTRL 189
00168	COMMON /RCNTRL/ PSMIN	SCNTRL 190
00169	COMMON /RCNTRL/ PTOF	SCNTRL 191
00170	COMMON /RCNTRL/ RADE	SCNTRL 192
00171	COMMON /RCNTRL/ RGAS	SCNTRL 193
00172	COMMON /RCNTRL/ ROOP	SCNTRL 194
00173	COMMON /RCNTRL/ RSDIST	SCNTRL 195
00174	COMMON /RCNTRL/ SDAY	SCNTRL 196
00175	COMMON /RCNTRL/ SEASON	SCNTRL 197
00176	COMMON /RCNTRL/ SIGE (25)	SCNTRL 198
00177	COMMON /RCNTRL/ SIND	SCNTRL 199
00178	COMMON /RCNTRL/ SOLS	SCNTRL 200
00179	COMMON /RCNTRL/ TSTD	SCNTRL 201
00180	COMMON /RCNTRL/ PLEVS (25)	SCNTRL 202
00181	COMMON /RCNTRL/ HEATW	SCNTRL 203
00182	COMMON /RCNTRL/ HEATI	SCNTRL 204
00183	COMMON /RCNTRL/ EPS	SCNTRL 205
00184	COMMON /RCNTRL/ EPSFAC	SCNTRL 206
00185	COMMON /RCNTRL/ CALTOJ	SCNTRL 207
00186	COMMON /RCNTRL/ PZERO	SCNTRL 208
C		
00187	EQUIVALENCE (RC0,RC(1))	SCNTRL 209
00188	REAL RC0, RC(200)	SCNTRL 210
C		
C INTEGER MODEL CONSTANTS		
C =====		
00189	COMMON /IDPARM/ IJUMP (46)	SCNTRL 211
00190	COMMON /IDPARM/ IDSP02	SCNTRL 212
00191	COMMON /IDPARM/ INDEX (72)	SCNTRL 213
00192	COMMON /IDPARM/ IROD	SCNTRL 214
00193	COMMON /IDPARM/ JC (46)	SCNTRL 215
00194	COMMON /IDPARM/ JE (2)	SCNTRL 216
00195	COMMON /IDPARM/ JP (2,2)	SCNTRL 217
00196	COMMON /IDPARM/ KSTEP	SCNTRL 218
00197	COMMON /IDPARM/ MJ (46)	SCNTRL 219
00198	COMMON /IDPARM/ NHMS1	SCNTRL 220
00199	COMMON /IDPARM/ NYMD1	SCNTRL 221
C		
C LOGICAL MODEL CONSTANTS		
C =====		
00200	COMMON /LDPARM/ FILTER (46)	SCNTRL 222
00201	COMMON /LDPARM/ ITAPE	SCNTRL 223
00202	COMMON /LDPARM/ START	SCNTRL 224
C		
00203	LOGICAL FILTER	SCNTRL 225
00204	LOGICAL ITAPE	SCNTRL 226
00205	LOGICAL START	SCNTRL 227
C		
C REAL MODEL CONSTANTS		
C =====		
00206	COMMON /RDPARM/ ADLDP	SCNTRL 228
00207	COMMON /RDPARM/ CON1	SCNTRL 229
00208	COMMON /RDPARM/ CON1DT	SCNTRL 230
00209	COMMON /RDPARM/ CON2	SCNTRL 231
00210	COMMON /RDPARM/ CON2DT	SCNTRL 232
00211	COMMON /RDPARM/ CON3	SCNTRL 233
00212	COMMON /RDPARM/ CON3DT	SCNTRL 234
00213	COMMON /RDPARM/ CON4	SCNTRL 235
00214	COMMON /RDPARM/ CON4DT	SCNTRL 236
00215	COMMON /RDPARM/ CONS	SCNTRL 237
00216	COMMON /RDPARM/ COSL (46)	SCNTRL 238
00217	COMMON /RDPARM/ COSLON (72)	SCNTRL 239
00218	COMMON /RDPARM/ CPD2	SCNTRL 240
00219	COMMON /RDPARM/ DXF (46)	SCNTRL 241
00220	COMMON /RDPARM/ DXYP (46)	SCNTRL 242
		SCNTRL 243
		SCNTRL 244
		SCNTRL 245
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		SCNTRL 252
		SCNTRL 253

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00221 COMMON /RDPARM/ DYP (46)
00222 COMMON /RDPARM/ FCORLS (46)
00223 COMMON /RDPARM/ F1DT
00224 COMMON /RDPARM/ F2DT
00225 COMMON /RDPARM/ H1DT
00226 COMMON /RDPARM/ H2DT
00227 COMMON /RDPARM/ PKSTD
00228 COMMON /RDPARM/ PKTOP
00229 COMMON /RDPARM/ RLAT (46)
00230 COMMON /RDPARM/ RLATD (46)
00231 COMMON /RDPARM/ ROCPDT
00232 COMMON /RDPARM/ ROCPPI
00233 COMMON /RDPARM/ SGNP (2)
00234 COMMON /RDPARM/ SINL (46)
00235 COMMON /RDPARM/ SINLON (72)
00236 COMMON /RDPARM/ THSTD
00237 COMMON /RDPARM/ THSTD2
00238 COMMON /RDPARM/ WSAVE (159)
00239 COMMON /RDPARM/ DSIG (9)
00240 COMMON /RDPARM/ SIG (9)

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C

GLOBAL MODEL SURFACE FIELDS

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00241 COMMON /QANDQT/ QS(72,19,46)

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00242 DIMENSION PHIS(1368,1)
00243 DIMENSION SMTH(1368,23)
00244 DIMENSION ALBEDO(1368,1)
00245 DIMENSION GT(1368,1)
00246 DIMENSION GW(1368,1)
00247 DIMENSION TS(1368,1)
00248 DIMENSION SHS(1368,1)
00249 DIMENSION P(72,19,1)
00250 DIMENSION TMIN(1368,1)
00251 DIMENSION TMAX(1368,1)
00252 DIMENSION PREACC(1368,1)
00253 DIMENSION PRECON(1368,1)
00254 DIMENSION HFLUX(1368,1)
00255 DIMENSION EFLUX(1368,1)
00256 DIMENSION FUSION(1368,1)
00257 DIMENSION RADSWG(1368,1)
00258 DIMENSION RADLWG(1368,1)
00259 DIMENSION ICLOUD(1368,1)

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C

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00260 EQUIVALENCE (QS(1,1,1),PHIS(1,1))
00261 EQUIVALENCE (QS(1,2,1),SMTH(1,1))
00262 EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))
00263 EQUIVALENCE (QS(1,4,1),GT(1,1))
00264 EQUIVALENCE (QS(1,5,1),GW(1,1))
00265 EQUIVALENCE (QS(1,6,1),TS(1,1))
00266 EQUIVALENCE (QS(1,7,1),SHS(1,1))
00267 EQUIVALENCE (QS(1,8,1),P(1,1,1))
00268 EQUIVALENCE (QS(1,10,1),TMIN(1,1))
00269 EQUIVALENCE (QS(1,11,1),TMAX(1,1))
00270 EQUIVALENCE (QS(1,12,1),PREACC(1,1))
00271 EQUIVALENCE (QS(1,13,1),PRECON(1,1))
00272 EQUIVALENCE (QS(1,14,1),HFLUX(1,1))
00273 EQUIVALENCE (QS(1,15,1),EFLUX(1,1))
00274 EQUIVALENCE (QS(1,16,1),FUSION(1,1))
00275 EQUIVALENCE (QS(1,17,1),RADSWG(1,1))
00276 EQUIVALENCE (QS(1,18,1),RADLWG(1,1))
00277 EQUIVALENCE (QS(1,19,1),ICLOUD(1,1))

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GLOBAL MODEL UPPER-AIR FIELDS

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00278 COMMON /QANDQT/ QU(72,9,14,46)

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C

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00279 DIMENSION U(72,9,14,1)
00280 DIMENSION V(72,9,14,1)
00281 DIMENSION T(72,9,14,1)
00282 DIMENSION SH(72,9,14,1)
00283 DIMENSION PHI(72,9,14,1)

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SCNTRL 254
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END

SPOLINP 79

STATEMENT LABEL MAP

--LABEL---DEFINED---REFERENCES

10000	303		
120	310	305	
200	314	312	
220	321	315	316

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

ADATE	CCNTRL	CHAR*8	SIMPLE	3	16										
ADLOP	RDPARM	REAL	SIMPLE	206											
ALBEDO	QANDQT	REAL	ARRAY	244	262										
APHEL	RCNTRL	REAL	SIMPLE	146											
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17										
BETA	RCNTRL	REAL	SIMPLE	147											
CALTOJ	RCNTRL	REAL	SIMPLE	185											
CC	CCNTRL	CHAR*8	ARRAY	14	15										
CCO	CCNTRL	CHAR*8	SIMPLE	2	14	15									
CCNTRL	CCNTRL	REAL	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12	
				13											
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20										
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21										
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22										
CON1	RDPARM	REAL	SIMPLE	207											
CON1DT	RDPARM	REAL	SIMPLE	208											
CON2	RDPARM	REAL	SIMPLE	209											
CON2DT	RDPARM	REAL	SIMPLE	210											
CON3	RDPARM	REAL	SIMPLE	211											
CON3DT	RDPARM	REAL	SIMPLE	212											
CON4	RDPARM	REAL	SIMPLE	213											
CON4DT	RDPARM	REAL	SIMPLE	214											
CON5	RDPARM	REAL	SIMPLE	215											
COSD	RCNTRL	REAL	SIMPLE	148											
COSL	RDPARM	REAL	ARRAY	216											
COSLON	RDPARM	REAL	ARRAY	217	306	307	317	318							
CP	RCNTRL	REAL	SIMPLE	149											
CPD2	RDPARM	REAL	SIMPLE	218											
CQS	CCNTRL	REAL	ARRAY	12											
CQU	CCNTRL	REAL	ARRAY	13											
DAYSPLY	RCNTRL	REAL	SIMPLE	150											
DEC	RCNTRL	REAL	SIMPLE	151											
DECMAX	RCNTRL	REAL	SIMPLE	152											
DIABAT	QANDQT	REAL	ARRAY	285	294										
DIST	RCNTRL	REAL	SIMPLE	153											
DLAT	RCNTRL	REAL	SIMPLE	154											
DLOH	RCNTRL	REAL	SIMPLE	155											
DSIG	RDPARM	REAL	ARRAY	239											
DT	RCNTRL	REAL	SIMPLE	156											
DXP	RDPARM	REAL	ARRAY	219											
DXYP	RDPARM	REAL	ARRAY	220											
DYP	RDPARM	REAL	ARRAY	221											
ECCN	RCNTRL	REAL	SIMPLE	157											
EFLUX	QANDQT	REAL	ARRAY	255	273										
EPS	RCNTRL	REAL	SIMPLE	183											
EPSFAC	RCNTRL	REAL	SIMPLE	184											
F1DT	RDPARM	REAL	SIMPLE	223											
F2DT	RDPARM	REAL	SIMPLE	224											
FCORLS	RDPARM	REAL	ARRAY	222											
FILTER	LDPARM	LOGICAL	ARRAY	200	203										
FUSION	QANDQT	REAL	ARRAY	256	274										
GNU1	RCNTRL	REAL	SIMPLE	158											
GNU2	RCNTRL	REAL	SIMPLE	159											
GRAV	RCNTRL	REAL	SIMPLE	160											
GT	QANDQT	REAL	ARRAY	245	263										
GW	QANDQT	REAL	ARRAY	246	264										
H1DT	RDPARM	REAL	SIMPLE	225											

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POLINP 7

H2DT	RDPARM	REAL	SIMPLE	226										
HEATI	RCNTRL	REAL	SIMPLE	182										
HEATW	RCNTRL	REAL	SIMPLE	181										
HFLUX	QANDQT	REAL	ARRAY	254	272									
I		INTEGER	SIMPLE	312/C	313	316/C	317	317	317	317	318	318	318	320
IC	ICNTRL	INTEGER	ARRAY	90	91									
ICO	ICNTRL	INTEGER	SIMPLE	25	90	91								
ICLOUD	QANDQT	INTEGER	ARRAY	259	277									
ICNTRL		INTEGER	UNKNOWN	25	26	27	28	29	30	31	32	33	34	35
				36	37	38	39	40	41	42	43	44	45	46
				47	48	49	50	51	52	53	54	55	56	57
				58	59	60	61	62	63	64	65	66	67	68
				69	70	71	72	73	74	75	76			
ICSP53	ICNTRL	INTEGER	SIMPLE	66										
ICSP55	ICNTRL	INTEGER	SIMPLE	68										
IDIABAT	ICNTRL	INTEGER	UNKNOWN	88										
IDPARM		INTEGER	UNKNOWN	189	190	191	192	193	194	195	196	197	198	199
IDSP02	IDPARM	INTEGER	SIMPLE	190										
IEFLUX	ICNTRL	INTEGER	UNKNOWN	82										
IFUSION	ICNTRL	INTEGER	UNKNOWN	83										
IHFLUX	ICNTRL	INTEGER	UNKNOWN	81										
IICLOUD	ICNTRL	INTEGER	UNKNOWN	86										
IJUMP	IDPARM	INTEGER	ARRAY	189										
IM	ICNTRL	INTEGER	SIMPLE	26	312	316								
IMD2	ICNTRL	INTEGER	SIMPLE	27										
IMD2P1	ICNTRL	INTEGER	SIMPLE	28										
INDEX	IDPARM	INTEGER	ARRAY	191										
IOmega	ICNTRL	INTEGER	UNKNOWN	87										
IPREACC	ICNTRL	INTEGER	UNKNOWN	79										
IPRECON	ICNTRL	INTEGER	UNKNOWN	80										
IQS	ICNTRL	INTEGER	ARRAY	75	77	78	79	80	81	82	83	84	85	86
IQU	ICNTRL	INTEGER	ARRAY	76	87	88	89							
IRADLWG	ICNTRL	INTEGER	UNKNOWN	85										
IRADSW	ICNTRL	INTEGER	UNKNOWN	89										
IRADSWG	ICNTRL	INTEGER	UNKNOWN	84										
IROD	IDPARM	INTEGER	SIMPLE	192										
ITAPE	IDPARM	LOGICAL	SIMPLE	201	204									
ITMAX	ICNTRL	INTEGER	UNKNOWN	78										
ITMIN	ICNTRL	INTEGER	UNKNOWN	77										
JO	IDPARM	INTEGER	ARRAY	193										
JE	IDPARM	INTEGER	ARRAY	194	304	306	306	307	307	308	309	313	317	318
				319	320									
JIC	ICNTRL	CHAR*8	SIMPLE	5	18									
JM	ICNTRL	INTEGER	SIMPLE	30										
JMD2	ICNTRL	INTEGER	SIMPLE	31										
JMT2	ICNTRL	INTEGER	SIMPLE	32										
JNP	ICNTRL	INTEGER	SIMPLE	33										
JO4	ICNTRL	INTEGER	SIMPLE	34										
JO8	ICNTRL	INTEGER	SIMPLE	35										
JOB	ICNTRL	CHAR*8	SIMPLE	6	19									
JP	IDPARM	INTEGER	ARRAY	195										
JSP	ICNTRL	INTEGER	SIMPLE	36										
KLIALB	ICNTRL	INTEGER	SIMPLE	37										
KLIGW	ICNTRL	INTEGER	SIMPLE	38										
KLISST	ICNTRL	INTEGER	SIMPLE	39										
KS	ICNTRL	INTEGER	SIMPLE	40										
KSTEP	IDPARM	INTEGER	SIMPLE	196										
KU	ICNTRL	INTEGER	SIMPLE	41										
L		INTEGER	SIMPLE	305/C	306	306	306	307	307	307	308	308	309	309
				315/C	317	317	317	318	318	318	319	319	320	320
LC	LCNTRL	LOGICAL	ARRAY	143										
LCO	LCNTRL	LOGICAL	SIMPLE	92	144									
LCNTRL		INTEGER	UNKNOWN	92	143	144								
				92	93	94	95	95	97	98	99	100	101	102
				103	104									
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	116	141									
LDPARM		INTEGER	UNKNOWN	200	201	202								
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	110	135									
LFUSION	LCNTRL	LOGICAL	UNKNOWN	111	136									
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	109	134									
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	139									

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LOGBR	ICNTRL	INTEGER	SIMPLE	42										
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	115	140									
LPREACC	LCNTRL	LOGICAL	UNKNOWN	107	132									
LPRECON	LCNTRL	LOGICAL	UNKNOWN	108	133									
LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114
LQU	LCNTRL	LOGICAL	ARRAY	128										
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	104	115	116	117	129						
LRADSW	LCNTRL	LOGICAL	UNKNOWN	113	138									
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	117	142									
LTMAX	LCNTRL	LOGICAL	UNKNOWN	112	137									
LTMIN	LCNTRL	LOGICAL	UNKNOWN	106	131									
M	LCNTRL	INTEGER	SIMPLE	105	130									
				1	304	304	306	306	306	306	307	307	307	307
				308	308	309	309	311	313	313	317	317	317	317
				318	318	318	318	319	319	320	320			
MATIN	ICNTRL	INTEGER	SIMPLE	43										
MATSNX	ICNTRL	INTEGER	SIMPLE	44										
MATSUN	ICNTRL	INTEGER	SIMPLE	45										
MJ	IDPARM	INTEGER	ARRAY	197										
MLF	ICNTRL	INTEGER	ARRAY	46										
MROD	ICNTRL	INTEGER	SIMPLE	47										
MSM	ICNTRL	INTEGER	SIMPLE	49										
N				1	304	304	306	306	306	307	307	307	308	308
				309	309	311	313	313	317	317	317	318	318	318
				319	319	320	320							
NB	ICNTRL	INTEGER	SIMPLE	50										
ND	ICNTRL	INTEGER	SIMPLE	51										
NDALT	ICNTRL	INTEGER	SIMPLE	52										
NDAY	ICNTRL	INTEGER	SIMPLE	53										
NDHOG	ICNTRL	INTEGER	SIMPLE	74										
NDOUT	ICNTRL	INTEGER	SIMPLE	54										
NDPHY	ICNTRL	INTEGER	SIMPLE	55										
NDRSW	ICNTRL	INTEGER	SIMPLE	29										
NDSHF	ICNTRL	INTEGER	SIMPLE	56										
NDT	ICNTRL	INTEGER	SIMPLE	57										
NHMS	ICNTRL	INTEGER	SIMPLE	58										
NHMSO	ICNTRL	INTEGER	SIMPLE	60										
NHMSI	IDPARM	INTEGER	SIMPLE	198										
NHMSE	ICNTRL	INTEGER	SIMPLE	59										
NKRSH	ICNTRL	INTEGER	SIMPLE	48										
NLAY	ICNTRL	INTEGER	SIMPLE	61	305	315								
NLAYM1	ICNTRL	INTEGER	SIMPLE	62										
NLAYP1	ICNTRL	INTEGER	SIMPLE	63										
NMLEV	ICNTRL	INTEGER	SIMPLE	64										
NSDAY	ICNTRL	INTEGER	SIMPLE	65										
NSEQ	ICNTRL	INTEGER	SIMPLE	66										
NSTEP	ICNTRL	INTEGER	SIMPLE	67										
NYMD	ICNTRL	INTEGER	SIMPLE	69										
NYMDO	ICNTRL	INTEGER	SIMPLE	71										
NYMD1	IDPARM	INTEGER	SIMPLE	199										
NYMDE	ICNTRL	INTEGER	SIMPLE	70										
NZINIT	ICNTRL	INTEGER	SIMPLE	72										
OMEGA	QANDQT	REAL	ARRAY	284	293									
OMEGA2	RCNTRL	REAL	SIMPLE	161										
P	QANDQT	REAL	ARRAY	249	267	304	313/S							
PHI	QANDQT	REAL	ARR.V	283	292									
PHIP	QPOLES	REAL	ARRAY	302										
PHIS	QANDQT	REAL	ARRAY	242	260									
PI	RCNTRL	REAL	SIMPLE	162										
PI180	RCNTRL	REAL	SIMPLE	163										
PI2	RCNTRL	REAL	SIMPLE	164										
PIMEAN	RCNTRL	REAL	SIMPLE	165										
PKSTD	RDPARM	REAL	SIMPLE	227										
PKTOP	RDPARM	REAL	SIMPLE	228										
PLEVS	RCNTRL	REAL	ARRAY	30										
POLINP			SUBROUT	1										
POLOUT			SUBROUT	311										
PP	QPOLES	REAL	ARRAY	297	304/S	313								
PREACC	QANDQT	REAL	ARRAY	252	270									
PRECON	QANDQT	REAL	ARRAY	253	271									

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PSMAX	RCNTRL	REAL	SIMPLE	167															
PSMIN	RCNTRL	REAL	SIMPLE	168															
PSTD	RCNTRL	REAL	SIMPLE	165															
PTOP	RCNTRL	REAL	SIMPLE	169															
PZERO	RCNTRL	REAL	SIMPLE	186															
QALT	LCNTRL	LOGICAL	SIMPLE	93	118														
QANDQT	REAL	UNKNOWN		241	278														
QBEG	LCNTRL	LOGICAL	SIMPLE	94	119														
QDAY	LCNTRL	LOGICAL	SIMPLE	95	120														
QEND	LCNTRL	LOGICAL	SIMPLE	96	121														
QOUT	LCNTRL	LOGICAL	SIMPLE	97	122														
QPHY	LCNTRL	LOGICAL	SIMPLE	98	123														
QPOLES	REAL	UNKNOWN		297	298	299	300	301	302										
QRSH	LCNTRL	LOGICAL	SIMPLE	102	127														
QRSW	LCNTRL	LOGICAL	SIMPLE	101	126														
QS	QANDQT	REAL	ARRAY	241	260	261	262	263	264	265	266	267	268	269					
				270	271	272	273	274	275	276	277								
QSHF	LCNTRL	LOGICAL	SIMPLE	99	124														
QU	QANDQT	REAL	ARRAY	278	288	289	290	291	292	293	294	295	296						
RADE	RCNTRL	REAL	SIMPLE	170															
RADLW	QANDQT	REAL	ARRAY	287	296														
RADLWG	QANDQT	REAL	ARRAY	258	276														
RADSW	QANDQT	REAL	ARRAY	286	295														
RADSWG	QANDQT	REAL	ARRAY	257	275														
RC	RCNTRL	REAL	ARRAY	187	188														
RCO	RCNTRL	REAL	SIMPLE	145	187	188													
RCNTRL	REAL	UNKNOWN		145	146	147	148	149	150	151	152	153	154	155					
				156	157	158	159	160	161	162	163	164	165	166					
				167	168	169	170	171	172	173	174	175	176	177					
				178	179	180	181	182	183	184	185	186							
RDPARM	REAL	UNKNOWN		206	207	208	209	210	211	212	213	214	215	216					
				217	218	219	220	221	222	223	224	225	226	227					
				228	229	230	231	232	233	234	235	236	237	238					
				239	240														
RGAS	RCNTRL	REAL	SIMPLE	171															
RLAT	RDPARM	REAL	ARRAY	229															
RLATO	RDPARM	REAL	ARRAY	230															
ROCP	RCNTRL	REAL	SIMPLE	172															
ROCPDT	RDPARM	REAL	SIMPLE	231															
ROCPPI	RDPARM	REAL	SIMPLE	232															
RSDIST	RCNTRL	REAL	SIMPLE	173															
SDAY	RCNTRL	REAL	SIMPLE	174															
SEASON	RCNTRL	REAL	SIMPLE	175															
SGNP	RDPARM	REAL	ARRAY	233	306	307	317	318											
SH	QANDQT	REAL	ARRAY	282	291	309	320/S												
SHP	QPOLES	REAL	ARRAY	301	309/S	320													
SHS	QANDQT	REAL	ARRAY	248	266														
SIG	RDPARM	REAL	ARRAY	240															
SIGE	RCNTRL	REAL	ARRAY	176															
SIND	RCNTRL	REAL	SIMPLE	177															
SINL	RDPARM	REAL	ARRAY	234															
SINLON	RDPARM	REAL	ARRAY	235	306	307	317	318											
SMTH	QANDQT	REAL	ARRAY	243	261														
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125														
SOLS	RCNTRL	REAL	SIMPLE	178															
START	RDPARM	LOGICAL	SIMPLE	202	205														
T	QANDQT	REAL	ARRAY	281	290	308	319/S												
THSTD	RDPARM	REAL	SIMPLE	236															
THSTD2	RDPARM	REAL	SIMPLE	237															
TMAX	QANDQT	REAL	ARRAY	251	269														
TMIN	QANDQT	REAL	ARRAY	250	268														
TP	QPOLES	REAL	ARRAY	300	308/S	319													
TS	QANDQT	REAL	ARRAY	247	265														
TSTD	RCNTRL	REAL	SIMPLE	179															
U	QANDQT	REAL	ARRAY	279	288	306	307	317/S											
UP	QPOLES	REAL	ARRAY	298	306/S	317	318												
V	QANDQT	REAL	ARRAY	280	289	306	307	318/S											
VER	CCNTRL	CHAR*8	SIMPLE	10	23														
VP	QPOLES	REAL	ARRAY	299	307/S	317	318												
WSAVE	RDPARM	REAL	ARRAY	238															

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XLABEL

CONTRL

CHAR+B

ARRAY

11

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00001

SUBROUTINE PRDIAG (JX, IX)

PURPOSE

CHECK BASE SURFACE PRESSURES FOR UNSTABLE VALUES
CALLED BY MAIN (COMPO) ONLY

USAGE

ARGUMENTS DESCRIPTION

JX J POINT
IX I POINT

SUBPROGRAMS NEEDED

NAME DESCRIPTION
NONE

RECORD OF MODIFICATIONS

BASED ON OLD VERSION B.

?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS?
05/17/83 RAMESH THIS PART AND COMMENTS

REMARKS:

(1) MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.

M / A - O O M S I G M A D A T A I N C . N A S A - G S F C

CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD

COMMON /CCNTRL/ CCO
COMMON /CCNTRL/ ADATE
COMMON /CCNTRL/ ATIME
COMMON /CCNTRL/ JIC
COMMON /CCNTRL/ JOB
COMMON /CCNTRL/ CCSP06
COMMON /CCNTRL/ CCSP07
COMMON /CCNTRL/ CCSP08
COMMON /CCNTRL/ VER
COMMON /CCNTRL/ XLABEL (10)
COMMON /CCNTRL/ QQS (30)
COMMON /CCNTRL/ CQU (10)EQUIVALENCE (CCO,CC(1))
CHARACTER*8 CCO, CC(200)
CHARACTER*8 ADATE
CHARACTER*8 ATIME
CHARACTER*8 JIC
CHARACTER*8 JOB
CHARACTER*8 CCSP06
CHARACTER*8 CCSP07
CHARACTER*8 CCSP08
CHARACTER*8 VER
CHARACTER*8 XLABEL

INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD

COMMON /ICNTRL/ ICO
COMMON /ICNTRL/ IM
COMMON /ICNTRL/ IMD2
COMMON /ICNTRL/ IMD2P1
COMMON /ICNTRL/ NDRSW
COMMON /ICNTRL/ JM
COMMON /ICNTRL/ JMD2
COMMON /ICNTRL/ JMT2
COMMON /ICNTRL/ JNP
COMMON /ICNTRL/ JO4
COMMON /ICNTRL/ JOB
COMMON /ICNTRL/ JSPSPRDIAG 2
SPRDIAG 3
SPRDIAG 4
SPRDIAG 5
SPRDIAG 6
SPRDIAG 7
SPRDIAG 8
SPRDIAG 9
SPRDIAG 10
SPRDIAG 11
SPRDIAG 12
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SPRDIAG 27
SPRDIAG 28
SPRDIAG 29
SPRDIAG 30
SCNTRL 2
SCNTRL 3
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SCNTRL 41
SCNTRL 42
SCNTRL 43ORIGINAL PAGE 13
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00037	COMMON /ICNTRL/ KLIAB	SCNTRL 44
00038	COMMON /ICNTRL/ KLIW	SCNTRL 45
00039	COMMON /ICNTRL/ KLISS	SCNTRL 46
00040	COMMON /ICNTRL/ KS	SCNTRL 47
00041	COMMON /ICNTRL/ KU	SCNTRL 48
00042	COMMON /ICNTRL/ LOGBR	SCNTRL 49
00043	COMMON /ICNTRL/ MATIN	SCNTRL 50
00044	COMMON /ICNTRL/ MATSNX	SCNTRL 51
00045	COMMON /ICNTRL/ MATSUN	SCNTRL 52
00046	COMMON /ICNTRL/ MLF (12)	SCNTRL 53
00047	COMMON /ICNTRL/ MRD	SCNTRL 54
00048	COMMON /ICNTRL/ NKRSH	SCNTRL 55
00049	COMMON /ICNTRL/ MSM	SCNTRL 56
00050	COMMON /ICNTRL/ NB	SCNTRL 57
00051	COMMON /ICNTRL/ ND	SCNTRL 58
00052	COMMON /ICNTRL/ NDALT	SCNTRL 59
00053	COMMON /ICNTRL/ NDAY	SCNTRL 60
00054	COMMON /ICNTRL/ NDOUT	SCNTRL 61
00055	COMMON /ICNTRL/ NDPHY	SCNTRL 62
00056	COMMON /ICNTRL/ NDSHF	SCNTRL 63
00057	COMMON /ICNTRL/ NDT	SCNTRL 64
00058	COMMON /ICNTRL/ NHMS	SCNTRL 65
00059	COMMON /ICNTRL/ NHMSE	SCNTRL 66
00060	COMMON /ICNTRL/ NHMSO	SCNTRL 67
00061	COMMON /ICNTRL/ NLAY	SCNTRL 68
00062	COMMON /ICNTRL/ NLAYM1	SCNTRL 69
00063	COMMON /ICNTRL/ NLAYP1	SCNTRL 70
00064	COMMON /ICNTRL/ NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
C		
00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 84
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 85
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 86
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 87
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 88
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 89
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 90
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 91
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 92
00086	EQUIVALENCE (IICLOUD ,IQS(10))	SCNTRL 93
C		
00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 94
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 95
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 96
C		
00090	EQUIVALENCE (ICO,IC(1))	SCNTRL 97
00091	INTEGER ICO, IC(200)	SCNTRL 98
C		
O LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD		
O =====		
00092	COMMON /LCNTRL/ LCO	SCNTRL 99
00093	COMMON /LCNTRL/ QALT	SCNTRL 100
00094	COMMON /LCNTRL/ QBEG	SCNTRL 101
00095	COMMON /LCNTRL/ DAY	SCNTRL 102
00096	COMMON /LCNTRL/ QEND	SCNTRL 103
00097	COMMON /LCNTRL/ QOUT	SCNTRL 104
00098	COMMON /LCNTRL/ QPHY	SCNTRL 105
00099	COMMON /LCNTRL/ QSHF	SCNTRL 106
00100	COMMON /LCNTRL/ SN2FLG	SCNTRL 107
00101	COMMON /LCNTRL/ QRSW	SCNTRL 108
		SCNTRL 109
		SCNTRL 110
		SCNTRL 111
		SCNTRL 112
		SCNTRL 113
		SCNTRL 114

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00102 COMMON /LCNTRL/ QRSW
00103 COMMON /LCNTRL/ LQS(30)
00104 COMMON /LCNTRL/ LQU(10)

C
00105 EQUIVALENCE (LTMIN ,LQS( 1))
00106 EQUIVALENCE (LTMAX ,LQS( 2))
00107 EQUIVALENCE (LPREACC ,LQS( 3))
00108 EQUIVALENCE (LPRECON ,LQS( 4))
00109 EQUIVALENCE (LHFLUX ,LQS( 5))
00110 EQUIVALENCE (LEFLUX ,LQS( 6))
00111 EQUIVALENCE (LFUSION ,LQS( 7))
00112 EQUIVALENCE (LRADSWG ,LQS( 8))
00113 EQUIVALENCE (LRADLWG ,LQS( 9))
00114 EQUIVALENCE (LICLOUD ,LQS(10))

C
00115 EQUIVALENCE (LOMEGA ,LQU( 1))
00116 EQUIVALENCE (LDIABAT ,LQU( 2))
00117 EQUIVALENCE (LRADSW ,LQU( 3))

C
00118 LOGICAL QALT
00119 LOGICAL QBEG
00120 LOGICAL QDAY
00121 LOGICAL QEND
00122 LOGICAL QOUT
00123 LOGICAL QPHY
00124 LOGICAL QSHF
00125 LOGICAL SN2FLG
00126 LOGICAL QRSW
00127 LOGICAL QRSW

C
00128 LOGICAL LQS
00129 LOGICAL LQU
00130 LOGICAL LTMIN
00131 LOGICAL LTMAX
00132 LOGICAL LPREACC
00133 LOGICAL LPRECON
00134 LOGICAL LHFLUX
00135 LOGICAL LEFLUX
00136 LOGICAL LFUSION
00137 LOGICAL LRADSWG
00138 LOGICAL LRADLWG
00139 LOGICAL LICLOUD

C
00140 LOGICAL LOMEGA
00141 LOGICAL LDIABAT
00142 LOGICAL LRADSW

C
00143 EQUIVALENCE (LC0,LC(1))
00144 LOGICAL LC0, LC(200)

C
C REAL MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00145 COMMON /RCNTRL/ R00
00146 COMMON /RCNTRL/ APHEL
00147 COMMON /RCNTRL/ BETA
00148 COMMON /RCNTRL/ COSD
00149 COMMON /RCNTRL/ CP
00150 COMMON /RCNTRL/ DAYSPLY
00151 COMMON /RCNTRL/ DEC
00152 COMMON /RCNTRL/ DECMAx
00153 COMMON /RCNTRL/ DIST
00154 COMMON /RCNTRL/ DLAT
00155 COMMON /RCNTRL/ DLON
00156 COMMON /RCNTRL/ DT
00157 COMMON /RCNTRL/ ECCN
00158 COMMON /RCNTRL/ GNU1
00159 COMMON /RCNTRL/ GNU2
00160 COMMON /RCNTRL/ GRAV
00161 COMMON /RCNTRL/ OMEGA2
00162 COMMON /RCNTRL/ PI
00163 COMMON /RCNTRL/ PI180

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SCNTRL 115
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00164 COMMON /RCNTRL/ PI2
00165 COMMON /RCNTRL/ PSTD
00166 COMMON /RCNTRL/ PIMEAN
00167 COMMON /RCNTRL/ PSMAX
00168 COMMON /RCNTRL/ PSMIN
00169 COMMON /RCNTRL/ PTOP
00170 COMMON /RCNTRL/ RADE
00171 COMMON /RCNTRL/ RGAS
00172 COMMON /RCNTRL/ ROCP
00173 COMMON /RCNTRL/ RSDIST
00174 COMMON /RCNTRL/ SDAY
00175 COMMON /RCNTRL/ SEASON
00176 COMMON /RCNTRL/ SIGE (25)
00177 COMMON /RCNTRL/ SIND
00178 COMMON /RCNTRL/ SOLS
00179 COMMON /RCNTRL/ TSTD
00180 COMMON /RCNTRL/ PLEVS (25)
00181 COMMON /RCNTRL/ HEATW
00182 COMMON /RCNTRL/ HEATI
00183 COMMON /RCNTRL/ EPS
00184 COMMON /RCNTRL/ EPSFAC
00185 COMMON /RCNTRL/ CALTOJ
00186 COMMON /RCNTRL/ PZERO

C
00187 EQUIVALENCE (RC0,RC(1))
00188 REAL RC0, RC(200)

C
C INTEGER MODEL CONSTANTS
C =====
00189 COMMON /IDPARM/ IJUMP (46)
00190 COMMON /IDPARM/ IDSP02
00191 COMMON /IDPARM/ INDEX (72)
00192 COMMON /IDPARM/ IROD
00193 COMMON /IDPARM/ JC (46)
00194 COMMON /IDPARM/ JE (2)
00195 COMMON /IDPARM/ JP (2,2)
00196 COMMON /IDPARM/ KSTEP
00197 COMMON /IDPARM/ MJ (46)
00198 COMMON /IDPARM/ NHMS1
00199 COMMON /IDPARM/ NYMD1

C
C LOGICAL MODEL CONSTANTS
C =====
00200 COMMON /LDPARM/ FILTER (46)
00201 COMMON /LDPARM/ ITAPE
00202 COMMON /LDPARM/ START

C
00203 LOGICAL FILTER
00204 LOGICAL ITAPE
00205 LOGICAL START

C
C REAL MODEL CONSTANTS
C =====
00206 COMMON /RDPARM/ ADLDP
00207 COMMON /RDPARM/ CON1
00208 COMMON /RDPARM/ CON1DT
00209 COMMON /RDPARM/ CON2
00210 COMMON /RDPARM/ CON2DT
00211 COMMON /RDPARM/ CON3
00212 COMMON /RDPARM/ CON3DT
00213 COMMON /RDPARM/ CON4
00214 COMMON /RDPARM/ CON4DT
00215 COMMON /RDPARM/ CON5
00216 COMMON /RDPARM/ COSL (46)
00217 COMMON /RDPARM/ COSLON (72)
00218 COMMON /RDPARM/ CPD2
00219 COMMON /RDPARM/ DXF (46)
00220 COMMON /RDPARM/ DXYP (46)
00221 COMMON /RDPARM/ DYP (46)
00222 COMMON /RDPARM/ FCORLS (46)
00223 COMMON /RDPARM/ F1DT

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SCNTRL 186
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SCNTRL 256

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00224 COMMON /RDPARM/ F2DT
00225 COMMON /RDPARM/ H1DT
00226 COMMON /RDPARM/ H2DT
00227 COMMON /RDPARM/ PKSTD
00228 COMMON /RDPARM/ PKTOP
00229 COMMON /RDPARM/ RLAT (46)
00230 COMMON /RDPARM/ RLATD (46)
00231 COMMON /RDPARM/ ROCPTD
00232 COMMON /RDPARM/ ROCPPI
00233 COMMON /RDPARM/ SGNP (2)
00234 COMMON /RDPARM/ SINL (46)
00235 COMMON /RDPARM/ SINLON (72)
00236 COMMON /RDPARM/ THSTD
00237 COMMON /RDPARM/ THSTD2
00238 COMMON /RDPARM/ WSAVE (159)
00239 COMMON /RDPARM/ DSIG (9)
00240 COMMON /RDPARM/ SIG (9)

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GLOBAL MODEL SURFACE FIELDS

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00241 COMMON /QANDQT/ QS(72,19,46)

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00242 DIMENSION PHIS(1368,1)
00243 DIMENSION SMTH(1368,23)
00244 DIMENSION ALBEDO(1368,1)
00245 DIMENSION GT(1368,1)
00246 DIMENSION GW(1368,1)
00247 DIMENSION TS(1368,1)
00248 DIMENSION SHS(1368,1)
00249 DIMENSION P(72,19,1)
00250 DIMENSION TMIN(1368,1)
00251 DIMENSION TMAX(1368,1)
00252 DIMENSION PREACC(1368,1)
00253 DIMENSION PRECON(1368,1)
00254 DIMENSION HFLUX(1368,1)
00255 DIMENSION EFLUX(1368,1)
00256 DIMENSION FUSION(1368,1)
00257 DIMENSION RADSWG(1368,1)
00258 DIMENSION RADLWG(1368,1)
00259 DIMENSION ICLOUD(1368,1)

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C

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00260 EQUIVALENCE (QS(1,1,1),PHIS(1,1))
00261 EQUIVALENCE (QS(1,2,1),SMTH(1,1))
00262 EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))
00263 EQUIVALENCE (QS(1,4,1),GT(1,1))
00264 EQUIVALENCE (QS(1,5,1),GW(1,1))
00265 EQUIVALENCE (QS(1,6,1),TS(1,1))
00266 EQUIVALENCE (QS(1,7,1),SHS(1,1))
00267 EQUIVALENCE (QS(1,8,1),P(1,1,1))
00268 EQUIVALENCE (QS(1,10,1),TMIN(1,1))
00269 EQUIVALENCE (QS(1,11,1),TMAX(1,1))
00270 EQUIVALENCE (QS(1,12,1),PREACC(1,1))
00271 EQUIVALENCE (QS(1,13,1),PRECON(1,1))
00272 EQUIVALENCE (QS(1,14,1),HFLUX(1,1))
00273 EQUIVALENCE (QS(1,15,1),EFLUX(1,1))
00274 EQUIVALENCE (QS(1,16,1),FUSION(1,1))
00275 EQUIVALENCE (QS(1,17,1),RADSWG(1,1))
00276 EQUIVALENCE (QS(1,18,1),RADLWG(1,1))
00277 EQUIVALENCE (QS(1,19,1),ICLOUD(1,1))

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GLOBAL MODEL UPPER-AIR FIELDS

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00278 COMMON /QANDQT/ QU(72,9,14,46)

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00279 DIMENSION U(72,9,14,1)
00280 DIMENSION V(72,9,14,1)
00281 DIMENSION T(72,9,14,1)
00282 DIMENSION SH(72,9,14,1)
00283 DIMENSION PHI(72,9,14,1)
00284 DIMENSION OMEGA(72,126,1)
00285 DIMENSION DIABAT(72,126,1)
00286 DIMENSION RADSW(72,126,1)

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SPRDIAG 79
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SPRDIAG120
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PRDIAG 7

[illegible]

IM	ICNTRL	INTEGER	SIMPLE	26	324	324	325	347	350	354	360	361	367	367
IMD2	ICNTRL	INTEGER	SIMPLE	27	358	366								
IMD2P1	ICNTRL	INTEGER	SIMPLE	28										
INDEX	IDPARM	INTEGER	ARRAY	191										
IONEGA	ICNTRL	INTEGER	UNKNOWN	87										
IPREACC	ICNTRL	INTEGER	UNKNOWN	79										
IPRECON	ICNTRL	INTEGER	UNKNOWN	80										
IQS	ICNTRL	INTEGER	ARRAY	75	77	78	79	80	81	82	83	84	85	86
IQU	ICNTRL	INTEGER	ARRAY	76	87	88	89							
IRADLWG	ICNTRL	INTEGER	UNKNOWN	85										
IRADSW	ICNTRL	INTEGER	UNKNOWN	89										
IRADSWG	ICNTRL	INTEGER	UNKNOWN	84										
IROD	IDPARM	INTEGER	SIMPLE	192										
ITAPE	IDPARM	LOGICAL	SIMPLE	201	204									
ITMAX	ICNTRL	INTEGER	UNKNOWN	78										
ITMIN	ICNTRL	INTEGER	UNKNOWN	77										
IW		INTEGER	SIMPLE	352/S	356/W	359/S	360	361	361	363/W	365/S	369/W		
IX		INTEGER	SIMPLE	1	324	325	326/W	326	326	329	330	335	336	341
				342	345	346								
IXM1		INTEGER	SIMPLE	324/S	327	328	333	334	339	340				
IXP1		INTEGER	SIMPLE	325/S	331	332	337	338	343	344				
JC	IDPARM	INTEGER	ARRAY	193										
JE	IDPARM	INTEGER	ARRAY	194										
JIC	CCNTRL	CHAR*8	SIMPLE	5	18									
JM	ICNTRL	INTEGER	SIMPLE	30										
JMD2	ICNTRL	INTEGER	SIMPLE	31										
JMT2	ICNTRL	INTEGER	SIMPLE	32										
JNP	ICNTRL	INTEGER	SIMPLE	33	323									
JO4	ICNTRL	INTEGER	SIMPLE	34										
JO8	ICNTRL	INTEGER	SIMPLE	35										
JO8	CCNTRL	CHAR*8	SIMPLE	6	19									
JP	IDPARM	INTEGER	ARRAY	195										
JSP	ICNTRL	INTEGER	SIMPLE	36	322									
JX		INTEGER	SIMPLE	1	322	323	326/W	326	326	333	334	335	336	337
				388	345	346	348	348	348					
JXM1		INTEGER	SIMPLE	322/S	339	340	341	342	343	344				
JXP1		INTEGER	SIMPLE	323/S	327	328	329	330	331	332				
KLIALB	ICNTRL	INTEGER	SIMPLE	37										
KLIGW	ICNTRL	INTEGER	SIMPLE	38										
KLISST	ICNTRL	INTEGER	SIMPLE	39										
KS	ICNTRL	INTEGER	SIMPLE	40										
KSTEP	IDPARM	INTEGER	SIMPLE	196										
KU	ICNTRL	INTEGER	SIMPLE	41										
L		INTEGER	SIMPLE	327	327/C	328	328/C	329	329/C	330	330/C	331	331/C	332
				332/C	333	333/C	334	334/C	335	335/C	336	336/C	337	337
				338	338/C	339	339/C	340	340/C	341	341/C	342	342/C	343
				343/C	344	344/C	345	345/C	346	346/C				
LC	LCNTRL	LOGICAL	ARRAY	143	144									
LC0	LCNTRL	LOGICAL	SIMPLE	92	143	144								
LCNTRL		INTEGER	UNKNOWN	92	93	94	95	96	97	98	99	100	101	102
				103	104									
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	116	141									
LDPARM		INTEGER	UNKNOWN	200	201	202								
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	110	135									
LFUSION	LCNTRL	LOGICAL	UNKNOWN	111	136									
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	109	134									
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	139									
LOG8R	ICNTRL	INTEGER	SIMPLE	42										
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	115	140									
LPREACC	LCNTRL	LOGICAL	UNKNOWN	107	132									
LPRECON	LCNTRL	LOGICAL	UNKNOWN	108	133									
LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114
				128										
LQU	LCNTRL	LOGICAL	ARRAY	104	115	116	117	129						
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138									
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	142									
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	112	137									
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131									
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130									
MATIN	ICNTRL	INTEGER	SIMPLE	43										

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NAME	TYPE	CLASS	REFERENCES	D=STMT FN DEF, A=ARGLIST
WAVPER	REAL	INTRINSIC	354	357
WSAVE	REAL	INTRINSIC	320	
XLABEL	REAL	INTRINSIC	360	
	INTEGER	INTRINSIC	322	
	INTEGER	INTRINSIC	323	
	INTEGER	INTRINSIC	324	325
	SUBROUTINE		350	
	STAT FUNC		320/S	348
	INTRINSIC		361	

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00001 C FUNCTION QSAT (T,P)
00002 REAL EST(139), EST1(67), EST2(72)
00003 EQUIVALENCE (EST(1), EST1(1)), (EST(68),EST2(1))
00004 C DATA EST1/
* 0.31195E-02, 0.36135E-02, 0.41800E-02,
* 0.48227E-02, 0.55571E-02, 0.63934E-02, 0.73433E-02,
* 0.84286E-02, 0.96407E-02, 0.11014E-01, 0.12582E-01,
* 0.14353E-01, 0.16341E-01, 0.18574E-01, 0.21095E-01,
* 0.23926E-01, 0.27096E-01, 0.30652E-01, 0.34629E-01,
* 0.39073E-01, 0.44028E-01, 0.49546E-01, 0.55691E-01,
* 0.62508E-01, 0.70077E-01, 0.78700E-01, 0.88128E-01,
* 0.98477E-01, 0.10983E+00, 0.12233E+00, 0.13608E+00,
* 0.15121E+00, 0.16784E+00, 0.18615E+00, 0.20627E+00,
* 0.22837E+00, 0.25263E+00, 0.27923E+00, 0.30838E+00,
* 0.34030E+00, 0.37520E+00, 0.41334E+00, 0.45497E+00,
* 0.50037E+00, 0.54984E+00, 0.60369E+00, 0.66225E+00,
* 0.72589E+00, 0.79497E+00, 0.86991E+00, 0.95113E+00,
* 0.10391E+01, 0.11343E+01, 0.12372E+01, 0.13484E+01,
* 0.14684E+01, 0.15979E+01, 0.17375E+01, 0.18879E+01,
* 0.20499E+01, 0.22241E+01, 0.24113E+01, 0.26126E+01,
* 0.28286E+01, 0.30604E+01, 0.33091E+01, 0.35755E+01/

00005 C DATA EST2/
* 0.38608E+01, 0.41663E+01, 0.44930E+01, 0.48423E+01,
* 0.52155E+01, 0.56140E+01, 0.60394E+01, 0.64930E+01,
* 0.69767E+01, 0.74919E+01, 0.80406E+01, 0.86246E+01,
* 0.92457E+01, 0.99061E+01, 0.10608E+02, 0.11353E+02,
* 0.12144E+02, 0.12983E+02, 0.13873E+02, 0.14816E+02,
* 0.15815E+02, 0.16872E+02, 0.17992E+02, 0.19176E+02,
* 0.20428E+02, 0.21750E+02, 0.23148E+02, 0.24623E+02,
* 0.26180E+02, 0.27822E+02, 0.29553E+02, 0.31378E+02,
* 0.33300E+02, 0.35324E+02, 0.37454E+02, 0.39696E+02,
* 0.42053E+02, 0.44531E+02, 0.47134E+02, 0.49859E+02,
* 0.52741E+02, 0.55754E+02, 0.58916E+02, 0.62232E+02,
* 0.65708E+02, 0.69351E+02, 0.73168E+02, 0.77164E+02,
* 0.81348E+02, 0.85725E+02, 0.90305E+02, 0.95094E+02,
* 0.10010E+03, 0.10533E+03, 0.11080E+03, 0.11650E+03,
* 0.12246E+03, 0.12868E+03, 0.13517E+03, 0.14193E+03,
* 0.14899E+03, 0.15634E+03, 0.16400E+03, 0.17199E+03,
* 0.18030E+03, 0.18895E+03, 0.19796E+03, 0.20733E+03,
* 0.21708E+03, 0.22722E+03, 0.23776E+03, 0.24871E+03/

00006 C TMAX = AMAX1( T ,200.0 )
00007 TMIN = AMIN1( TMAX,337.9 )
00008 TSTAR = TMIN - 198.99999
00009 IC = TSTAR
00010 TEMP = EST(IC) + (EST(IC+1) - EST(IC))*(TSTAR - IC)
00011 QSAT = AMIN1(TEMP,P/1.622)
00012 QSAT = .622*QSAT/(P - QSAT)

00013 C RETURN
00014 END

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QSAT 2
 QSAT 3
 QSAT 4
 QSAT 5
 QSAT 6
 QSAT 7
 QSAT 8
 QSAT 9
 QSAT 10
 QSAT 11
 QSAT 12
 QSAT 13
 QSAT 14
 QSAT 15
 QSAT 16
 QSAT 17
 QSAT 18
 QSAT 19
 QSAT 20
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 QSAT 51
 QSAT 52
 QSAT 53
 QSAT 54
 QSAT 55

VARIABLE MAP

NAME	BLOCK	TYPE	CLASS	REFERENCES	A=ARGLIST	C=CTRL OF DO	I=DATA INIT	R=READ	S=STORE	W=WRITE
EST		REAL	ARRAY	2	3	3	10	10	10	
EST1		REAL	ARRAY	2	3	4/1				
EST2		REAL	ARRAY	2	3	5/1				
IC		INTEGER	SIMPLE	9/S	10	10	10	10		
P		REAL	SIMPLE	1	11	12				
QSAT		REAL	FUNCTION	1	11/S	12/S	12	12		
T		REAL	SIMPLE	1	6					
TEMP		REAL	SIMPLE	10/S	11					
TMAX		REAL	SIMPLE	6/S	7					
TMIN		REAL	SIMPLE	7/S	8					
TSTAR		REAL	SIMPLE	8/S	9	10				

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT FN DEF, A=ARGLIST
AMAX1	REAL	INTRINSIC	6	
AMIN1	REAL	INTRINSIC	7	11

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00001

SUBROUTINE RADIO (J)

C
C
C

CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD

00002
00003
00004
00005
00006
00007
00008
00009
00010
00011
00012
00013COMMON /CCNTRL/ CCO
COMMON /CCNTRL/ ADATE
COMMON /CCNTRL/ ATIME
COMMON /CCNTRL/ JIC
COMMON /CCNTRL/ JOB
COMMON /CCNTRL/ CCSP06
COMMON /CCNTRL/ CCSP07
COMMON /CCNTRL/ CCSP08
COMMON /CCNTRL/ VER
COMMON /CCNTRL/ XLABEL (10)
COMMON /CCNTRL/ CQS (30)
COMMON /CCNTRL/ CQU (10)

C

00014
00015
00016
00017
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00019
00020
00021
00022
00023
00024EQUIVALENCE (CC0,CC(1))
CHARACTER*8 CCO, CC(200)
CHARACTER*8 ADATE
CHARACTER*8 ATIME
CHARACTER*8 JIC
CHARACTER*8 JOB
CHARACTER*8 CCSP06
CHARACTER*8 CCSP07
CHARACTER*8 CCSP08
CHARACTER*8 VER
CHARACTER*8 XLABEL

C

C

INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD

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00059
00060
00061
00062
00063COMMON /ICNTRL/ ICO
COMMON /ICNTRL/ IM
COMMON /ICNTRL/ IMD2
COMMON /ICNTRL/ IMD2P1
COMMON /ICNTRL/ NDRSW
COMMON /ICNTRL/ JM
COMMON /ICNTRL/ JMD2
COMMON /ICNTRL/ JMT2
COMMON /ICNTRL/ JNP
COMMON /ICNTRL/ JO4
COMMON /ICNTRL/ JO8
COMMON /ICNTRL/ JSP
COMMON /ICNTRL/ KLIALB
COMMON /ICNTRL/ KLIGW
COMMON /ICNTRL/ KLISST
COMMON /ICNTRL/ KS
COMMON /ICNTRL/ KU
COMMON /ICNTRL/ LOGBR
COMMON /ICNTRL/ MATIN
COMMON /ICNTRL/ MATSNX
COMMON /ICNTRL/ MATSUN
COMMON /ICNTRL/ MLF (12)
COMMON /ICNTRL/ MROD
COMMON /ICNTRL/ NKRSB
COMMON /ICNTRL/ MSM
COMMON /ICNTRL/ NB
COMMON /ICNTRL/ ND
COMMON /ICNTRL/ NDALT
COMMON /ICNTRL/ NDAY
COMMON /ICNTRL/ NDOUT
COMMON /ICNTRL/ NDPHY
COMMON /ICNTRL/ NDSHF
COMMON /ICNTRL/ NDT
COMMON /ICNTRL/ NHMS
COMMON /ICNTRL/ NHMSE
COMMON /ICNTRL/ NHMSO
COMMON /ICNTRL/ NLAY
COMMON /ICNTRL/ NLAYM1
COMMON /ICNTRL/ NLAYP1SRADIO 2
SRADIO 3
SCNTRL 2
SCNTRL 3
SCNTRL 4
SCNTRL 5
SCNTRL 6
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00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
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00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
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00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 87
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 88
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00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 91
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 92
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 93
00086	EQUIVALENCE (IICLOUD ,IQS(10))	SCNTRL 94
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00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 96
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 97
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 98
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00090	EQUIVALENCE (IC0,IC(1))	SCNTRL 100
00091	INTEGER IC0, IC(200)	SCNTRL 101
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00093	COMMON /LCNTRL/ QALT	SCNTRL 106
00094	COMMON /LCNTRL/ QBEG	SCNTRL 107
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00100	COMMON /LCNTRL/ SN2FLG	SCNTRL 113
00101	COMMON /LCNTRL/ QRSW	SCNTRL 114
00102	COMMON /LCNTRL/ QRSW	SCNTRL 115
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00105	EQUIVALENCE (LTMIN ,LQS(1))	SCNTRL 119
00106	EQUIVALENCE (LTMAX ,LQS(2))	SCNTRL 120
00107	EQUIVALENCE (LPREACC ,LQS(3))	SCNTRL 121
00108	EQUIVALENCE (LPRECON ,LQS(4))	SCNTRL 122
00109	EQUIVALENCE (LHFLUX ,LQS(5))	SCNTRL 123
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00113	EQUIVALENCE (LRADLWG ,LQS(9))	SCNTRL 127
00114	EQUIVALENCE (LIICLOUD ,LQS(10))	SCNTRL 128
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00115	EQUIVALENCE (LOMEGA ,LQU(1))	SCNTRL 130
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00117	EQUIVALENCE (LRADSW ,LQU(3))	SCNTRL 132
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00120	LOGICAL QDAY	SCNTRL 136
00121	LOGICAL QEND	SCNTRL 137
00122	LOGICAL QOUT	SCNTRL 138
00123	LOGICAL QPHY	SCNTRL 139
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00126 LOGICAL QRSW
00127 LOGICAL QRSH
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00128 LOGICAL LQS
00129 LOGICAL LOU
00130 LOGICAL LTMIN
00131 LOGICAL LTMAX
00132 LOGICAL LPREACC
00133 LOGICAL LPRECON
00134 LOGICAL LHFLUX
00135 LOGICAL LEFLUX
00136 LOGICAL LFUSION
00137 LOGICAL LRADSWG
00138 LOGICAL LRADLWG
00139 LOGICAL LICLOUD
C
00140 LOGICAL LOMEGA
00141 LOGICAL LDIABAT
00142 LOGICAL LRADSW
C
00143 EQUIVALENCE (LC0,LC(1))
00144 LOGICAL LC0, LC(200)
C
C REAL MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00145 COMMON /RCNTRL/ RCO
00146 COMMON /RCNTRL/ APHEL
00147 COMMON /RCNTRL/ BETA
00148 COMMON /RCNTRL/ COSD
00149 COMMON /RCNTRL/ CP
00150 COMMON /RCNTRL/ DAYSPY
00151 COMMON /RCNTRL/ DEC
00152 COMMON /RCNTRL/ DECMAX
00153 COMMON /RCNTRL/ DIST
00154 COMMON /RCNTRL/ DLAT
00155 COMMON /RCNTRL/ DLON
00156 COMMON /RCNTRL/ DT
00157 COMMON /RCNTRL/ ECCN
00158 COMMON /RCNTRL/ GNU1
00159 COMMON /RCNTRL/ GNU2
00160 COMMON /RCNTRL/ GRAV
00161 COMMON /RCNTRL/ OMEGA2
00162 COMMON /RCNTRL/ PI
00163 COMMON /RCNTRL/ PI180
00164 COMMON /RCNTRL/ PI2
00165 COMMON /RCNTRL/ PSTD
00166 COMMON /RCNTRL/ PIMEAN
00167 COMMON /RCNTRL/ PSMAX
00168 COMMON /RCNTRL/ PSMIN
00169 COMMON /RCNTRL/ PTOP
00170 COMMON /RCNTRL/ RADE
00171 COMMON /RCNTRL/ RGAS
00172 COMMON /RCNTRL/ ROCP
00173 COMMON /RCNTRL/ RSDIST
00174 COMMON /RCNTRL/ SDAY
00175 COMMON /RCNTRL/ SEASON
00176 COMMON /RCNTRL/ SIGE (25)
00177 COMMON /RCNTRL/ SIND
00178 COMMON /RCNTRL/ SOLS
00179 COMMON /RCNTRL/ TSTD
00180 COMMON /RCNTRL/ PLEVS (25)
00181 COMMON /RCNTRL/ HEATW
00182 COMMON /RCNTRL/ HEATI
00183 COMMON /RCNTRL/ EPS
00184 COMMON /RCNTRL/ EPSFAC
00185 COMMON /RCNTRL/ CALTOJ
00186 COMMON /RCNTRL/ PZERO
C
00187 EQUIVALENCE (RC0,RC(1))
00188 REAL RCO, RC(200)
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C INTEGER MODEL CONSTANTS
C =====
00189 COMMON /IDPARM/ IJUMP (46)
00190 COMMON /IDPARM/ IDSP02
00191 COMMON /IDPARM/ INDEX (72)
00192 COMMON /IDPARM/ IROD
00193 COMMON /IDPARM/ JC (46)
00194 COMMON /IDPARM/ JE (2)
00195 COMMON /IDPARM/ JP (2,2)
00196 COMMON /IDPARM/ KSTEP
00197 COMMON /IDPARM/ MJ (46)
00198 COMMON /IDPARM/ NHMS1
00199 COMMON /IDPARM/ NYMD1

C LOGICAL MODEL CONSTANTS
C =====
00200 COMMON /LDPARM/ FILTER (46)
00201 COMMON /LDPARM/ ITAPE
00202 COMMON /LDPARM/ START

C LOGICAL FILTER
00203 LOGICAL FILTER
00204 LOGICAL ITAPE
00205 LOGICAL START

C REAL MODEL CONSTANTS
C =====
00206 COMMON /RDPARM/ ADLDP
00207 COMMON /RDPARM/ CON1
00208 COMMON /RDPARM/ CON1DT
00209 COMMON /RDPARM/ CON2
00210 COMMON /RDPARM/ CON2DT
00211 COMMON /RDPARM/ CON3
00212 COMMON /RDPARM/ CON3DT
00213 COMMON /RDPARM/ CON4
00214 COMMON /RDPARM/ CON4DT
00215 COMMON /RDPARM/ CON5
00216 COMMON /RDPARM/ COSL (46)
00217 COMMON /RDPARM/ COSLON (72)
00218 COMMON /RDPARM/ CPD2
00219 COMMON /RDPARM/ DXP (46)
00220 COMMON /RDPARM/ DXYP (46)
00221 COMMON /RDPARM/ DYP (46)
00222 COMMON /RDPARM/ FCORLS (46)
00223 COMMON /RDPARM/ F1DT
00224 COMMON /RDPARM/ F2DT
00225 COMMON /RDPARM/ H1DT
00226 COMMON /RDPARM/ H2DT
00227 COMMON /RDPARM/ PKSTD
00228 COMMON /RDPARM/ PKTOP
00229 COMMON /RDPARM/ RLAT (46)
00230 COMMON /RDPARM/ RLATD (46)
00231 COMMON /RDPARM/ ROC PDT
00232 COMMON /RDPARM/ ROC PP1
00233 COMMON /RDPARM/ SGNP (2)
00234 COMMON /RDPARM/ SINL (46)
00235 COMMON /RDPARM/ SINLON (72)
00236 COMMON /RDPARM/ THSTD
00237 COMMON /RDPARM/ THSTD2
00238 COMMON /RDPARM/ WSAVE (159)
00239 COMMON /RDPARM/ DSIG (9)
00240 COMMON /RDPARM/ SIG (9)

C GLOBAL MODEL SURFACE FIELDS
C =====
00241 COMMON /QANDQT/ QS(72,19,46)

C DIMENSION PHIS(1368,1)
00242 DIMENSION SMTH(1368,23)
00243 DIMENSION ALSEDO(1368,1)
00244 DIMENSION GT(1368,1)
00245 DIMENSION GW(1368,1)

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00247	DIMENSION	TS(1368,1)	SQANDQT	11
00248	DIMENSION	SHS(1368,1)	SQANDQT	12
00249	DIMENSION	P(72,19,1)	SQANDQT	13
00250	DIMENSION	TMIN(1368,1)	SQANDQT	14
00251	DIMENSION	TMAX(1368,1)	SQANDQT	15
00252	DIMENSION	PREACC(1368,1)	SQANDQT	16
00253	DIMENSION	PRECON(1368,1)	SQANDQT	17
00254	DIMENSION	HFLUX(1368,1)	SQANDQT	18
00255	DIMENSION	EFLUX(1368,1)	SQANDQT	19
00256	DIMENSION	FUSION(1368,1)	SQANDQT	20
00257	DIMENSION	RADSWG(1368,1)	SQANDQT	21
00258	DIMENSION	RADLWG(1368,1)	SQANDQT	22
00259	DIMENSION	ICLOUD(1368,1)	SQANDQT	23
C				24
00260	EQUIVALENCE	(QS(1,1,1),PHIS(1,1))	SQANDQT	25
00261	EQUIVALENCE	(QS(1,2,1),SMTH(1,1))	SQANDQT	26
00262	EQUIVALENCE	(QS(1,3,1),ALBEDO(1,1))	SQANDQT	27
00263	EQUIVALENCE	(QS(1,4,1),GT(1,1))	SQANDQT	28
00264	EQUIVALENCE	(QS(1,5,1),GW(1,1))	SQANDQT	29
00265	EQUIVALENCE	(QS(1,6,1),TS(1,1))	SQANDQT	30
00266	EQUIVALENCE	(QS(1,7,1),SHS(1,1))	SQANDQT	31
00267	EQUIVALENCE	(QS(1,8,1),P(1,1,1))	SQANDQT	32
00268	EQUIVALENCE	(QS(1,10,1),TMIN(1,1))	SQANDQT	33
00269	EQUIVALENCE	(QS(1,11,1),TMAX(1,1))	SQANDQT	34
00270	EQUIVALENCE	(QS(1,12,1),PREACC(1,1))	SQANDQT	35
00271	EQUIVALENCE	(QS(1,13,1),PRECON(1,1))	SQANDQT	36
00272	EQUIVALENCE	(QS(1,14,1),HFLUX(1,1))	SQANDQT	37
00273	EQUIVALENCE	(QS(1,15,1),EFLUX(1,1))	SQANDQT	38
00274	EQUIVALENCE	(QS(1,16,1),FUSION(1,1))	SQANDQT	39
00275	EQUIVALENCE	(QS(1,17,1),RADSWG(1,1))	SQANDQT	40
00276	EQUIVALENCE	(QS(1,18,1),RADLWG(1,1))	SQANDQT	41
00277	EQUIVALENCE	(QS(1,19,1),ICLOUD(1,1))	SQANDQT	42
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00278	GLOBAL MODEL UPPER-AIR FIELDS		SQANDQT	46
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00279	DIMENSION	U(72,9,14,1)	SQANDQT	49
00280	DIMENSION	V(72,9,14,1)	SQANDQT	50
00281	DIMENSION	T(72,9,14,1)	SQANDQT	51
00282	DIMENSION	SH(72,9,14,1)	SQANDQT	52
00283	DIMENSION	PHI(72,9,14,1)	SQANDQT	53
00284	DIMENSION	OMEGA(72,126,1)	SQANDQT	54
00285	DIMENSION	DIABAT(72,126,1)	SQANDQT	55
00286	DIMENSION	RADSW(72,126,1)	SQANDQT	56
00287	DIMENSION	RADLW(72,126,1)	SQANDQT	57
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00288	EQUIVALENCE	(QU(1,1,1,1),U(1,1,1,1))	SQANDQT	59
00289	EQUIVALENCE	(QU(1,1,3,1),V(1,1,1,1))	SQANDQT	60
00290	EQUIVALENCE	(QU(1,1,5,1),T(1,1,1,1))	SQANDQT	61
00291	EQUIVALENCE	(QU(1,1,7,1),SH(1,1,1,1))	SQANDQT	62
00292	EQUIVALENCE	(QU(1,1,9,1),PHI(1,1,1,1))	SQANDQT	63
00293	EQUIVALENCE	(QU(1,1,11,1),OMEGA(1,1,1,1))	SQANDQT	64
00294	EQUIVALENCE	(QU(1,1,12,1),DIABAT(1,1,1,1))	SQANDQT	65
00295	EQUIVALENCE	(QU(1,1,13,1),RADSW(1,1,1,1))	SQANDQT	66
00296	EQUIVALENCE	(QU(1,1,14,1),RADLW(1,1,1,1))	SCNTRLP	2
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00297	PHYSICS PARAMETERS AND CONSTANTS		SCNTRLP	5
00298	COMMON /CNTRLP/ CDFR		SCNTRLP	6
00299	COMMON /CNTRLP/ CDXL		SCNTRLP	7
00300	COMMON /CNTRLP/ CDXO		SCNTRLP	8
00301	COMMON /CNTRLP/ CLH		SCNTRLP	9
00302	COMMON /CNTRLP/ COE (9)		SCNTRLP	10
00303	COMMON /CNTRLP/ COEF		SCNTRLP	11
00304	COMMON /CNTRLP/ COEFS		SCNTRLP	12
00305	COMMON /CNTRLP/ COSROT		SCNTRLP	13
00306	COMMON /CNTRLP/ CPP		SCNTRLP	14
00307	COMMON /CNTRLP/ GTID		SCNTRLP	15
00308	COMMON /CNTRLP/ CUMDAY		SCNTRLP	16
00309	COMMON /CNTRLP/ CUMRAT			
	COMMON /CNTRLP/ C10			

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00310	COMMON /CNTRL/ C100	SCNTRL 17
00311	COMMON /CNTRL/ C40	SCNTRL 18
00312	COMMON /CNTRL/ DELTA	SCNTRL 19
00313	COMMON /CNTRL/ DTC3	SCNTRL 20
00314	COMMON /CNTRL/ DTOUT	SCNTRL 21
00315	COMMON /CNTRL/ ED	SCNTRL 22
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00317	COMMON /CNTRL/ FCOEF	SCNTRL 24
00318	COMMON /CNTRL/ FMU	SCNTRL 25
00319	COMMON /CNTRL/ FWET	SCNTRL 26
00320	COMMON /CNTRL/ GAMFAC	SCNTRL 27
00321	COMMON /CNTRL/ GTOP0	SCNTRL 28
00322	COMMON /CNTRL/ HICE	SCNTRL 29
00323	COMMON /CNTRL/ NDTG3	SCNTRL 30
00324	COMMON /CNTRL/ NFLW	SCNTRL 31
00325	COMMON /CNTRL/ PIM	SCNTRL 32
00326	COMMON /CNTRL/ QHOG	SCNTRL 33
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00328	COMMON /CNTRL/ SINROT	SCNTRL 35
00329	COMMON /CNTRL/ SNOWN	SCNTRL 36
00330	COMMON /CNTRL/ SNOWS	SCNTRL 37
00331	COMMON /CNTRL/ STBO	SCNTRL 38
00332	COMMON /CNTRL/ STERP1	SCNTRL 39
00333	COMMON /CNTRL/ STERP2	SCNTRL 40
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00335	COMMON /CNTRL/ TLTOP	SCNTRL 42
00336	COMMON /CNTRL/ XDAY	SCNTRL 43
00337	COMMON /CNTRL/ ZLNCO	SCNTRL 44
00338	LOGICAL QHOG	SCNTRL 45

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RADIATION AND SOURCE TERM FIELDS

00339	COMMON /RADCOM/ AS(72,9), RE(72,10)	SRADCOM 2
00340	COMMON /RADCOM/ PL(72,9), PLE(72,10)	SRADCOM 3
00341	COMMON /RADCOM/ PLK(72,9), PLKE(10)	SRADCOM 4
00342	COMMON /RADCOM/ TL(72,9), TLE(72,10)	SRADCOM 5
00343	COMMON /RADCOM/ TG(72,9), TH(72,9)	SRADCOM 6
00344	COMMON /RADCOM/ SHL(72,9), SHLE(72,10)	SRADCOM 7
00345	COMMON /RADCOM/ SHG(72,9), CLOUD(72,12)	SRADCOM 8
00346	COMMON /RADCOM/ SHSAT(72,9), GAM(72,9)	SRADCOM 9
00347	COMMON /RADCOM/ RH(72,9)	SRADCOM 10
00348	COMMON /RADCOM/ SSS(72,9), SSSE(72,10)	SRADCOM 11
00349	COMMON /RADCOM/ HH(72,9), HHE(72,10)	SRADCOM 12
00350	COMMON /RADCOM/ HHS(72,9)	SRADCOM 13
00351	COMMON /RADCOM/ CVT(72,9), CVQ(72,9)	SRADCOM 14
00352	COMMON /RADCOM/ CXDE(9)	SRADCOM 15
00353	COMMON /RADCOM/ SWALE(72,10), SWIL(72,9)	SRADCOM 16
00354	COMMON /RADCOM/ AL(72,10)	SRADCOM 17
00355	COMMON /RADCOM/ TAUL(72,10), OZALE(72,10)	SRADCOM 18
00356	COMMON /RADCOM/ TOPABS(72)	SRADCOM 19
00357	COMMON /RADCOM/ RN(9), TN(9), SRS(9), STN(9)	SRADCOM 20
00358	COMMON /RADCOM/ TCOND(9), TPENE(9)	SRADCOM 21
00359	COMMON /RADCOM/ TLOWL, TMIDL, NLAYOZ	SRADCOM 22
00360	COMMON /RADCOM/ FK(5), XK(5), NFK	SRADCOM 23
00361	COMMON /RADCOM/ OLJAN(19), OLAPR(19), OLJUL(19), OLOCT(19)	SRADCOM 24
00362	COMMON /RADCOM/ OCM22(23), OCM30(23), OCM38(23), OCM46(23)	SRADCOM 25
00363	COMMON /RADCOM/ PROCM(23), OCMXX(23), NOZ, TOTOZ(4), CDATE(6)	SRADCOM 26
00364	COMMON /RADCOM/ CZH(72), WET(72), EVAP, PREP(72), WI(72)	SRADCOM 27
00365	COMMON /RADCOM/ COSZ(72), SO, RADTRM(72), CXL	SRADCOM 28
00366	COMMON /RADCOM/ SG(72), SP(72)	SRADCOM 29
00367	COMMON /RADCOM/ RSURF(72), RCLD(72), JALB	SRADCOM 30
00368	COMMON /RADCOM/ LAND(72), OCEAN(72), ICE(72)	SRADCOM 31
00369	COMMON /RADCOM/ SNOW(72), MIXWI(72), FROST(72)	SRADCOM 32
00370	LOGICAL LAND, OCEAN, ICE, SNOW, MIXWI, FROST	SRADCOM 33

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00371 10000 CONTINUE
 **** CYBER SCALAR VERSION 04.001 INPUT,100
 **** CYBER SCALAR VERSION 04.000
 **** CYBER SCALAR VERSION 00

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 SRADCOM 32
 SRADCOM 33
 SRADCOM 34
 SRADCOM 35
 SRADCOM 36
 SRADIO 8
 SBEGDEB 2
 SBEGDEB 3
 SBEGDEB 4
 SBEGDEB 5
 SBEGDEB 6

ORIGINAL 7-20-70
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00372      IF (NFLW.EQ.0) GO TO 420
00373      DO 1000 I=1,IM
00374      RSURF(I) = ALBEDO(I,J)*0.01
00375      1000 CONTINUE
00376      CALL SOLAR1 (J,XLAT)
00377
00378      DO 1010 L=1,NLAY
00379      DO 1010 I=1,IM
00380      RADSW(I,L,J) = RADSW(I,L,J) + CUMRAT*AS(I,L)
00381      1010 CONTINUE
00382      DO 1020 I=1,IM
00383      RADSWG(I,J) = RADSWG(I,J) + CUMRAT*SG(I)
00384      1020 CONTINUE
00385      IF (.NOT.QHOG) GO TO 420
00386      JALB = J
00387      DO 1030 I=1,IM
00388      CALL LINKHO (NLAY,NFLW,NDAY,IFIX(XLAT+.5),JNP,I)
00389      DO 415 L=1,NLAY
00390      RADLW(I,L,J) = RE(I,L)
00391      415 CONTINUE
00392      RADLWG(I,J) = RE(I,NLAYP1)
00393      1030 CONTINUE
00394      GO TO 440
00395      420 CONTINUE
00396      DO 1040 L=1,NLAY
00397      DO 1040 I=1,IM
00398      RE(I,L) = RADLW(I,L,J)
00399      1040 CONTINUE
00400      DO 1050 I=1,IM
00401      RE(I,NLAYP1) = RADLWG(I,J)
00402      1050 CONTINUE
00403      440 CONTINUE
00404      DO 1060 I=1,IM
00405      RADTRM(I) = SG(I) - RE(I,NLAYP1)
00406      1060 CONTINUE

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SRADIO 7
SRADIO 10
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SRADIO 79

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SRADIO	80
SRADIO	81
SRADIO	82

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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

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1000	375	373	
10000	371		
1010	381	378	379
1020	384	382	
1030	393	387	
1040	399	396	397
1050	402	400	
1060	406	404	
415	391	389	
420	395	372	385
440	403	394	

```

VARIABLE MAP
--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

```

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

[illegible]

RADIO 9

CPP	CNTRLP	REAL	SIMPLE	305
CQS	CCNTRL	REAL	ARRAY	12
CQU	CCNTRL	REAL	ARRAY	13
CTID	CNTRLP	REAL	SIMPLE	306
CUMDAY	CNTRLP	REAL	SIMPLE	307
CUMRAT	CNTRLP	REAL	SIMPLE	308
CVQ	RADCOM	REAL	ARRAY	351
CVT	RADCOM	REAL	ARRAY	351
CXDE	RADCOM	REAL	ARRAY	352
CXL	RADCOM	REAL	SIMPLE	355
CZH	RADCOM	REAL	ARRAY	354
DAYSPLY	RCNTRL	REAL	SIMPLE	150
DEC	RCNTRL	REAL	SIMPLE	151
DECMAX	RCNTRL	REAL	SIMPLE	152
DELTA	CNTRLP	REAL	SIMPLE	312
DIABAT	QANDQT	REAL	ARRAY	285
DIST	RCNTRL	REAL	SIMPLE	153
DLAT	RCNTRL	REAL	SIMPLE	154
DLOH	RCNTRL	REAL	SIMPLE	155
DSIG	RDPARM	REAL	ARRAY	239
DT	RCNTRL	REAL	SIMPLE	156
DTC3	CNTRLP	REAL	SIMPLE	313
DTOUT	CNTRLP	REAL	SIMPLE	314
DXP	RDPARM	REAL	ARRAY	219
DXYP	RDPARM	REAL	ARRAY	220
DYP	RDPARM	REAL	ARRAY	221
ECCN	RCNTRL	REAL	SIMPLE	157
ED	CNTRLP	REAL	SIMPLE	315
EDNM	CNTRLP	REAL	SIMPLE	316
EFLUX	QANDQT	REAL	ARRAY	255
EPS	RCNTRL	REAL	SIMPLE	183
EPSPAC	RCNTRL	REAL	SIMPLE	184
EVAP	RADCOM	REAL	SIMPLE	364
FIDT	RDPARM	REAL	SIMPLE	223
FZDT	RDPARM	REAL	SIMPLE	224
FCOEF	CNTRLP	REAL	SIMPLE	317
FCORLS	RDPARM	REAL	ARRAY	222
FILTER	LDPARM	LOGICAL	ARRAY	200
FK	RADCOM	REAL	ARRAY	360
FMU	CNTRLP	REAL	SIMPLE	318
FROST	RADCOM	LOGICAL	ARRAY	369
FUSION	QANDQT	REAL	ARRAY	256
FWET	CNTRLP	REAL	SIMPLE	319
GAM	RADCOM	REAL	ARRAY	346
GAMFAC	CNTRLP	REAL	SIMPLE	320
GNU1	RCNTRL	REAL	SIMPLE	158
GNU2	RCNTRL	REAL	SIMPLE	159
GRAV	RCNTRL	REAL	SIMPLE	160
GT	QANDOT	REAL	ARRAY	245
GTOPO	CNTRLP	REAL	SIMPLE	321
GW	QANDQT	REAL	ARRAY	246
H1DT	RDPARM	REAL	SIMPLE	225
H2DT	RDPARM	REAL	SIMPLE	226
HEATI	RCNTRL	REAL	SIMPLE	182
HEATW	RCNTRL	REAL	SIMPLE	181
HFLUX	QANDQT	REAL	ARRAY	254
HH	RADCOM	REAL	ARRAY	349
HHE	RADCOM	REAL	ARRAY	349
HHS	RADCOM	REAL	ARRAY	350
HICE	CNTRLP	REAL	SIMPLE	322
I		INTEGER	SIMPLE	373/C
				387/C
IC	ICNTRL	INTEGER	ARRAY	90
ICO	ICNTRL	INTEGER	SIMPLE	25
ICE	RADCOM	LOGICAL	ARRAY	368
ICLOUD	QANDQT	INTEGER	ARRAY	259
ICNTRL		INTEGER	UNKNOWN	26
				36
				47
				401
				404/C
				91
				370
				277
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				58	59	60	61	62	63	64	65	66	67	68
ICSP53	ICNTRL	INTEGER	SIMPLE	69	70	71	72	73	74	75	76			
ICSP55	ICNTRL	INTEGER	SIMPLE	68										
IDIABAT	ICNTRL	INTEGER	UNKNOWN	88										
IDPARM	ICNTRL	INTEGER	UNKNOWN	189	190	191	192	193	194	195	196	197	198	199
IDSP02	IDPARM	INTEGER	SIMPLE	190										
IEFLUX	ICNTRL	INTEGER	UNKNOWN	82										
IFUSION	ICNTRL	INTEGER	UNKNOWN	83										
IHFLUX	ICNTRL	INTEGER	UNKNOWN	81										
IICLOUD	ICNTRL	INTEGER	UNKNOWN	86										
IJUMP	IDPARM	INTEGER	ARRAY	189										
IM	ICNTRL	INTEGER	SIMPLE	26	373	379	382	387	397	400	404			
IMD2	ICNTRL	INTEGER	SIMPLE	27										
IMD2P1	ICNTRL	INTEGER	SIMPLE	28										
INDEX	IDPARM	INTEGER	ARRAY	191										
IOMEGA	ICNTRL	INTEGER	UNKNOWN	87										
IPREACC	ICNTRL	INTEGER	UNKNOWN	79										
IPRECON	ICNTRL	INTEGER	UNKNOWN	80										
IQS	ICNTRL	INTEGER	ARRAY	75	77	78	79	80	81	82	83	84	85	86
IQU	ICNTRL	INTEGER	ARRAY	76	87	88	89							
IRADLWG	ICNTRL	INTEGER	UNKNOWN	85										
IRADSW	ICNTRL	INTEGER	UNKNOWN	89										
IRADSWG	ICNTRL	INTEGER	UNKNOWN	84										
IROD	IDPARM	INTEGER	SIMPLE	192										
ITAPE	IDPARM	LOGICAL	SIMPLE	201	204									
ITMAX	ICNTRL	INTEGER	UNKNOWN	78										
ITMIN	ICNTRL	INTEGER	UNKNOWN	77										
J		INTEGER	SIMPLE	1	374	376	377	380	380	383	383	386	390	392
JALB	RADCOM	INTEGER	SIMPLE	398	401									
JC	IDPARM	INTEGER	ARRAY	367	386/S									
JE	IDPARM	INTEGER	ARRAY	193										
JIC	CCNTRL	CHAR*8	SIMPLE	194	18									
JM	ICNTRL	INTEGER	SIMPLE	5										
JMD2	ICNTRL	INTEGER	SIMPLE	30										
JMT2	ICNTRL	INTEGER	SIMPLE	31										
JNP	ICNTRL	INTEGER	SIMPLE	32										
JO4	ICNTRL	INTEGER	SIMPLE	33	388									
JO8	ICNTRL	INTEGER	SIMPLE	34										
				35										
JOB	CCNTRL	CHAR*8	SIMPLE	6	19									
JP	IDPARM	INTEGER	ARRAY	195										
JSP	ICNTRL	INTEGER	SIMPLE	36										
KLIALB	ICNTRL	INTEGER	SIMPLE	37										
KLIGW	ICNTRL	INTEGER	SIMPLE	38										
KLISST	ICNTRL	INTEGER	SIMPLE	39										
KS	ICNTRL	INTEGER	SIMPLE	40										
KSTEP	IDPARM	INTEGER	SIMPLE	196										
KU	ICNTRL	INTEGER	SIMPLE	41										
L		INTEGER	SIMPLE	378/C	380	380	380	389/C	390	390	396/C	398	398	
LAND	RADCOM	LOGICAL	ARRAY	368	370									
LC	ICNTRL	LOGICAL	ARRAY	143	144									
LC0	ICNTRL	LOGICAL	SIMPLE	92	143	144								
LCNTRL		INTEGER	UNKNOWN	92	93	94	95	96	97	98	99	100	101	102
				103	104									
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	116	141									
LDPARM	ICNTRL	INTEGER	UNKNOWN	200	201	202								
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	110	135									
LFUSION	LCNTRL	LOGICAL	UNKNOWN	111	136									
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	109	134									
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	139									
LOG8R	ICNTRL	INTEGER	SIMPLE	42										
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	115	140									
LPREACC	LCNTRL	LOGICAL	UNKNOWN	107	132									
LPRECON	LCNTRL	LOGICAL	UNKNOWN	108	133									
LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114
				128										
LQU	LCNTRL	LOGICAL	ARRAY	104	115	116	117	129						
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138									
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	142									

LRADSWG	LCNTRL	LOGICAL	UNKNOWN	112	137			
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131			
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130			
MATIN	ICNTRL	INTEGER	SIMPLE	43				
MATSNX	ICNTRL	INTEGER	SIMPLE	44				
MATSUN	ICNTRL	INTEGER	SIMPLE	45				
MIXWI	RADCOM	LOGICAL	ARRAY	369	370			
MJ	IDPARM	INTEGER	ARRAY	197				
MLF	ICNTRL	INTEGER	ARRAY	46				
MROD	ICNTRL	INTEGER	SIMPLE	47				
MSM	ICNTRL	INTEGER	SIMPLE	49				
NB	ICNTRL	INTEGER	SIMPLE	50				
ND	ICNTRL	INTEGER	SIMPLE	51				
NDALT	ICNTRL	INTEGER	SIMPLE	52				
NDAY	ICNTRL	INTEGER	SIMPLE	53	388			
NDHOG	ICNTRL	INTEGER	SIMPLE	74				
NDOUT	ICNTRL	INTEGER	SIMPLE	54				
NDPHV	ICNTRL	INTEGER	SIMPLE	55				
NDRSW	ICNTRL	INTEGER	SIMPLE	29				
NDSHF	ICNTRL	INTEGER	SIMPLE	56				
NDT	ICNTRL	INTEGER	SIMPLE	57				
NDTC3	CNTRLP	INTEGER	SIMPLE	323				
NFK	RADCOM	INTEGER	SIMPLE	360				
NFLW	ONTRLP	INTEGER	SIMPLE	324	372	388		
NHMS	ICNTRL	INTEGER	SIMPLE	58				
NHMS0	ICNTRL	INTEGER	SIMPLE	60				
NHMS1	IDPARM	INTEGER	SIMPLE	198				
NHMS2	ICNTRL	INTEGER	SIMPLE	59				
NKRSH	ICNTRL	INTEGER	SIMPLE	48				
NLAY	ICNTRL	INTEGER	SIMPLE	61	378	388	389	396
NLAYM1	ICNTRL	INTEGER	SIMPLE	62				
NLAYOZ	RADCOM	INTEGER	SIMPLE	359				
NLAYP1	ICNTRL	INTEGER	SIMPLE	63	392	401	405	
NMLEV	ICNTRL	INTEGER	SIMPLE	73				
NOZ	RADCOM	INTEGER	SIMPLE	363				
NSDAY	ICNTRL	INTEGER	SIMPLE	64				
NSEQ	ICNTRL	INTEGER	SIMPLE	65				
NSTEP	ICNTRL	INTEGER	SIMPLE	67				
NYMD	ICNTRL	INTEGER	SIMPLE	69				
NYMD0	ICNTRL	INTEGER	SIMPLE	71				
NYMD1	IDPARM	INTEGER	SIMPLE	199				
NYMDE	ICNTRL	INTEGER	SIMPLE	70				
NZINIT	ICNTRL	INTEGER	SIMPLE	72				
OCEAN	RADCOM	LOGICAL	ARRAY	368	370			
OCM22	RADCOM	REAL	ARRAY	362				
OCM30	RADCOM	REAL	ARRAY	362				
OCM38	RADCOM	REAL	ARRAY	362				
OCM46	RADCOM	REAL	ARRAY	362				
OCMXX	RADCOM	REAL	ARRAY	363				
OLAPR	RADCOM	REAL	ARRAY	361				
OLJAN	RADCOM	REAL	ARRAY	361				
OLJUL	RADCOM	REAL	ARRAY	361				
OLOCT	RADCOM	REAL	ARRAY	361				
OMEGA	QANDQT	REAL	ARRAY	284	293			
OMEGA2	RCNTRL	REAL	SIMPLE	161				
OZALE	RADCOM	REAL	ARRAY	355				
P	QANDQT	REAL	ARRAY	249	267			
PHI	QANDQT	REAL	ARRAY	283	292			
PHIS	QANDQT	REAL	ARRAY	242	260			
PI	RCNTRL	REAL	SIMPLE	162				
PI180	RCNTRL	REAL	SIMPLE	163				
PI2	RCNTRL	REAL	SIMPLE	164				
PIM	CNTRLP	REAL	SIMPLE	325				
PIMEAN	RCNTRL	REAL	SIMPLE	166				
PKSTD	RDPARM	REAL	SIMPLE	227				
PKTOP	RDPARM	REAL	SIMPLE	228				
PL	RADCOM	REAL	ARRAY	340				
PLE	RADCOM	REAL	ARRAY	340				
PLEVS	RCNTRL	REAL	ARRAY	180				
PLK	RADCOM	REAL	ARRAY	341				

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SIND	RCNTRL	REAL	SIMPLE	177		
SINL	RDPARM	REAL	ARRAY	234		
SINLON	RDPARM	REAL	ARRAY	235		
SINROT	CNTRL	REAL	SIMPLE	328		
SMTH	QANDQT	REAL	ARRAY	243	261	
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125	
SNOW	RADCOM	LOGICAL	ARRAY	369	370	
SNOWN	CNTRL	REAL	SIMPLE	329		
SNOWS	CNTRL	REAL	SIMPLE	330		
SOLS	RCNTRL	REAL	SIMPLE	178		
SP	RADCOM	REAL	ARRAY	366		
SRS	RADCOM	REAL	ARRAY	357		
SSS	RADCOM	REAL	ARRAY	348		
SSSE	RADCOM	REAL	ARRAY	348		
START	LDPARM	LOGICAL	SIMPLE	202	205	
STBO	CNTRL	REAL	SIMPLE	331		
STERP1	CNTRL	REAL	SIMPLE	332		
STERP2	CNTRL	REAL	SIMPLE	333		
STN	RADCOM	REAL	ARRAY	357		
SWALE	RADCOM	REAL	ARRAY	353		
SWIL	RADCOM	REAL	ARRAY	353		
T	QANDQT	REAL	ARRAY	281	290	
TAUL	RADCOM	REAL	ARRAY	355		
TCOND	RADCOM	REAL	ARRAY	358		
TG	RADCOM	REAL	ARRAY	343		
TH	RADCOM	REAL	ARRAY	343		
THSTD	RDPARM	REAL	SIMPLE	236		
THSTD2	RDPARM	REAL	SIMPLE	237		
TICE	CNTRL	REAL	SIMPLE	334		
TL	RADCOM	REAL	ARRAY	342		
TLE	RADCOM	REAL	ARRAY	342		
TLOWL	RADCOM	REAL	SIMPLE	359		
TLTOP	CNTRL	REAL	SIMPLE	335		
TMAX	QANDQT	REAL	ARRAY	251	269	
TMIDL	RADCOM	REAL	SIMPLE	359		
TMIN	QANDQT	REAL	ARRAY	250	268	
TN	RADCOM	REAL	ARRAY	357		
TOPABS	RADCOM	REAL	ARRAY	356		
TOTOZ	RADCOM	REAL	ARRAY	363		
TPENE	RADCOM	REAL	ARRAY	358		
TS	QANDQT	REAL	ARRAY	247	265	
TSTD	RCNTRL	REAL	SIMPLE	179		
U	QANDQT	REAL	ARRAY	279	288	
V	QANDQT	REAL	ARRAY	280	289	
VER	CCNTRL	CHAR*8	SIMPLE	10	23	
WET	RADCOM	REAL	ARRAY	364		
WI	RADCOM	REAL	ARRAY	364		
WSAVE	RDPARM	REAL	ARRAY	238		
XDAY	CNTRL	REAL	SIMPLE	336		
XK	RADCOM	REAL	ARRAY	360		
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24	
XLAT		REAL	SIMPLE	376/S	377	388
ZLNCO	CNTRL	REAL	SIMPLE	337		

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES
------	------	-------	------------

D=STMT FN DEF, A=ARGLIST

IFIX	INTEGER	INTRINSIC	388
LINKHO		SUBROUTINE	388
SOLAR1		SUBROUTINE	377

00001

SUBROUTINE RESTQM (N, J)

PURPOSE
RESTORE SAVED BASE FIELDS ONTO DIFFERENTIAL FIELDS
FOR MATSUNO CORRECTOR STEP.
CALLED BY COMPO ONLY

USAGE

ARGUMENTS DESCRIPTION
N TIME STEP POINTER (1 OR 2)
J LATITUDE GRID BAND

SUBPROGRAMS NEEDED
NAME DESCRIPTION
 NONE

RECORD OF MODIFICATIONS
BASED ON OLD VERSION 8.

 ?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS?
 05/04/83 RAMESH THIS PART AND COMMENTS

REMARKS:
(1) ?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.?

M / A - C O M S I G M A D A T A I N C . N A S A - G S F C

CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD

00002 COMMON /CCNTRL/ CC0
00003 COMMON /CCNTRL/ ADATE
00004 COMMON /CCNTRL/ ATIME
00005 COMMON /CCNTRL/ JIC
00006 COMMON /CCNTRL/ JOB
00007 COMMON /CCNTRL/ CCSP06
00008 COMMON /CCNTRL/ CCSP07
00009 COMMON /CCNTRL/ CCSP08
00010 COMMON /CCNTRL/ VER
00011 COMMON /CCNTRL/ XLABEL (10)
00012 COMMON /CCNTRL/ CQS (30)
00013 COMMON /CCNTRL/ CQU (10)

00014 EQUIVALENCE (CC0, CC(1))
00015 CHARACTER*8 CC0, CC(200)
00016 CHARACTER*8 ADATE
00017 CHARACTER*8 ATIME
00018 CHARACTER*8 JIC
00019 CHARACTER*8 JOB
00020 CHARACTER*8 CCSP06
00021 CHARACTER*8 CCSP07
00022 CHARACTER*8 CCSP08
00023 CHARACTER*8 VER
00024 CHARACTER*8 XLABEL

INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD

00025 COMMON /ICNTRL/ IC0
00026 COMMON /ICNTRL/ IM
00027 COMMON /ICNTRL/ IMD2
00028 COMMON /ICNTRL/ IMD2P1
00029 COMMON /ICNTRL/ NDRSW
00030 COMMON /ICNTRL/ JIM
00031 COMMON /ICNTRL/ JMD2
00032 COMMON /ICNTRL/ JMT2
00033 COMMON /ICNTRL/ JNP
00034 COMMON /ICNTRL/ JO4
00035 COMMON /ICNTRL/ JOB
00036 COMMON /ICNTRL/ JSP

SRESTQM 2
SRESTQM 3
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SCNTRL 2
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SCNTRL 42
SCNTRL 43

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RESTQM 1

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00037 COMMON /ICNTRL/ KLIALB
00038 COMMON /ICNTRL/ KLIOW
00039 COMMON /ICNTRL/ KLISST
00040 COMMON /ICNTRL/ KS
00041 COMMON /ICNTRL/ KU
00042 COMMON /ICNTRL/ LOGBR
00043 COMMON /ICNTRL/ MATIN
00044 COMMON /ICNTRL/ MATSNX
00045 COMMON /ICNTRL/ MATSUN
00046 COMMON /ICNTRL/ MLF (12)
00047 COMMON /ICNTRL/ MROD
00048 COMMON /ICNTRL/ NKRSR
00049 COMMON /ICNTRL/ MSM
00050 COMMON /ICNTRL/ NB
00051 COMMON /ICNTRL/ ND
00052 COMMON /ICNTRL/ NDALT
00053 COMMON /ICNTRL/ NDAY
00054 COMMON /ICNTRL/ NDOUT
00055 COMMON /ICNTRL/ NDPHY
00056 COMMON /ICNTRL/ NDSHF
00057 COMMON /ICNTRL/ NDT
00058 COMMON /ICNTRL/ NHMS
00059 COMMON /ICNTRL/ NHMSE
00060 COMMON /ICNTRL/ NHMSO
00061 COMMON /ICNTRL/ NLAY
00062 COMMON /ICNTRL/ NLAYM1
00063 COMMON /ICNTRL/ NLAYP1
00064 COMMON /ICNTRL/ NSDAY
00065 COMMON /ICNTRL/ NSEQ
00066 COMMON /ICNTRL/ ICSP53
00067 COMMON /ICNTRL/ NSTEP
00068 COMMON /ICNTRL/ ICSP55
00069 COMMON /ICNTRL/ NYMD
00070 COMMON /ICNTRL/ NYMDE
00071 COMMON /ICNTRL/ NYMDO
00072 COMMON /ICNTRL/ NZINIT
00073 COMMON /ICNTRL/ NMLEV
00074 COMMON /ICNTRL/ NDHOG
00075 COMMON /ICNTRL/ IQS (30)
00076 COMMON /ICNTRL/ IQU (10)

C
00077 EQUIVALENCE (ITMIN ,IQS( 1))
00078 EQUIVALENCE (ITMAX ,IQS( 2))
00079 EQUIVALENCE (IPREACC ,IQS( 3))
00080 EQUIVALENCE (IPRECON ,IQS( 4))
00081 EQUIVALENCE (IHFLUX ,IQS( 5))
00082 EQUIVALENCE (IEFLUX ,IQS( 6))
00083 EQUIVALENCE (IFUSION ,IQS( 7))
00084 EQUIVALENCE (IRADSWG ,IQS( 8))
00085 EQUIVALENCE (IRADLWG ,IQS( 9))
00086 EQUIVALENCE (IICLOUD ,IQS(10))

C
00087 EQUIVALENCE (IOMEGA ,IQU( 1))
00088 EQUIVALENCE (IDIABAT ,IQU( 2))
00089 EQUIVALENCE (IRADSW ,IQU( 3))

C
00090 EQUIVALENCE (IC0,IC(1))
00091 INTEGER IC0, IC(200)

C
C LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00092 COMMON /LCNTRL/ LCO
00093 COMMON /LCNTRL/ QALT
00094 COMMON /LCNTRL/ QBEG
00095 COMMON /LCNTRL/ QDAY
00096 COMMON /LCNTRL/ QEND
00097 COMMON /LCNTRL/ QOUT
00098 COMMON /LCNTRL/ QPHY
00099 COMMON /LCNTRL/ QSHF
00100 COMMON /LCNTRL/ SN2FLG
00101 COMMON /LCNTRL/ QRSW

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00102	COMMON /LCNTRL/	QRSH	SCNTRL 115
00103	COMMON /LCNTRL/	LQS(30)	SCNTRL 116
00104	COMMON /LCNTRL/	LQU(10)	SCNTRL 117
	C		SCNTRL 118
00105	EQUIVALENCE	(LTMIN ,LQS(1))	SCNTRL 119
00106	EQUIVALENCE	(LTMAX ,LQS(2))	SCNTRL 120
00107	EQUIVALENCE	(LPREACC ,LQS(3))	SCNTRL 121
00108	EQUIVALENCE	(LPRECON ,LQS(4))	SCNTRL 122
00109	EQUIVALENCE	(LHFLUX ,LQS(5))	SCNTRL 123
00110	EQUIVALENCE	(LEFLUX ,LQS(6))	SCNTRL 124
00111	EQUIVALENCE	(LFUSION ,LQS(7))	SCNTRL 125
00112	EQUIVALENCE	(LRADSWG ,LQS(8))	SCNTRL 126
00113	EQUIVALENCE	(LRADLWG ,LQS(9))	SCNTRL 127
00114	EQUIVALENCE	(LICLOUD ,LQS(10))	SCNTRL 128
	C		SCNTRL 129
00115	EQUIVALENCE	(LOMEGA ,LQU(1))	SCNTRL 130
00116	EQUIVALENCE	(LDIABAT ,LQU(2))	SCNTRL 131
00117	EQUIVALENCE	(LRADSW ,LQU(3))	SCNTRL 132
	C		SCNTRL 133
00118	LOGICAL	QALT	SCNTRL 134
00119	LOGICAL	QBEG	SCNTRL 135
00120	LOGICAL	QDAY	SCNTRL 136
00121	LOGICAL	QEND	SCNTRL 137
00122	LOGICAL	QOUT	SCNTRL 138
00123	LOGICAL	QPHY	SCNTRL 139
00124	LOGICAL	QSHF	SCNTRL 140
00125	LOGICAL	SN2FLG	SCNTRL 141
00126	LOGICAL	QRSW	SCNTRL 142
00127	LOGICAL	QRSH	SCNTRL 143
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00128	LOGICAL	LQS	SCNTRL 145
00129	LOGICAL	LQU	SCNTRL 146
00130	LOGICAL	LTMIN	SCNTRL 147
00131	LOGICAL	LTMAX	SCNTRL 148
00132	LOGICAL	LPREACC	SCNTRL 149
00133	LOGICAL	LPRECON	SCNTRL 150
00134	LOGICAL	LHFLUX	SCNTRL 151
00135	LOGICAL	LEFLUX	SCNTRL 152
00136	LOGICAL	LFUSION	SCNTRL 153
00137	LOGICAL	LRADSWG	SCNTRL 154
00138	LOGICAL	LRADLWG	SCNTRL 155
00139	LOGICAL	LICLOUD	SCNTRL 156
	C		SCNTRL 157
00140	LOGICAL	LOMEGA	SCNTRL 158
00141	LOGICAL	LDIABAT	SCNTRL 159
00142	LOGICAL	LRADSW	SCNTRL 160
	C		SCNTRL 161
00143	EQUIVALENCE	(LC0,LC(1))	SCNTRL 162
00144	LOGICAL	LC0, LC(200)	SCNTRL 163
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00168	COMMON /RCNTRL/	PSMIN	SCNTRL 190
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00188	C	REAL RC0, RC(200)	SCNTRL 210
	C	INTEGER MODEL CONSTANTS	SCNTRL 211
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00189	C	COMMON /IDPARM/ IJUMP (46)	SCNTRL 213
00190		COMMON /IDPARM/ IDSP02	SCNTRL 214
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00196		COMMON /IDPARM/ KSTEP	SCNTRL 220
00197		COMMON /IDPARM/ MJ (46)	SCNTRL 221
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00199		COMMON /IDPARM/ NYMD1	SCNTRL 223
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00200	C	COMMON /LDPARM/ FILTER (46)	SCNTRL 226
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00204		LOGICAL ITAPE	SCNTRL 230
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00208		COMMON /RDPARM/ CON1DT	SCNTRL 236
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00210		COMMON /RDPARM/ CON2DT	SCNTRL 238
00211		COMMON /RDPARM/ CON3	SCNTRL 239
00212		COMMON /RDPARM/ CON3DT	SCNTRL 240
00213		COMMON /RDPARM/ CON4	SCNTRL 241
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00217		COMMON /RDPARM/ COSLON (72)	SCNTRL 245
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00219		COMMON /RDPARM/ DXP (46)	SCNTRL 247
00220		COMMON /RDPARM/ DXYP (46)	SCNTRL 248
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00224 COMMON /RDPARM/ F2DT
00225 COMMON /RDPARM/ H1DT
00226 COMMON /RDPARM/ H2DT
00227 COMMON /RDPARM/ PKSTD
00228 COMMON /RDPARM/ PKTOP
00229 COMMON /RDPARM/ RLAT (46)
00230 COMMON /RDPARM/ RLATD (46)
00231 COMMON /RDPARM/ ROCPTD
00232 COMMON /RDPARM/ ROCPPI
00233 COMMON /RDPARM/ SGNP (2)
00234 COMMON /RDPARM/ SINL (46)
00235 COMMON /RDPARM/ SINLON (72)
00236 COMMON /RDPARM/ THSTD
00237 COMMON /RDPARM/ THSTD2
00238 COMMON /RDPARM/ WSAVE (159)
00239 COMMON /RDPARM/ DSIG (9)
00240 COMMON /RDPARM/ SIG (9)

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GLOBAL MODEL SURFACE FIELDS
COMMON /QANDQT/ QS(72,19,46)

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00242 DIMENSION PHIS(1368,1)
00243 DIMENSION SMTH(1368,23)
00244 DIMENSION ALBEDO(1368,1)
00245 DIMENSION GT(1368,1)
00246 DIMENSION GW(1368,1)
00247 DIMENSION TS(1368,1)
00248 DIMENSION SHS(1368,1)
00249 DIMENSION P(72,19,1)
00250 DIMENSION TMIN(1368,1)
00251 DIMENSION TMAX(1368,1)
00252 DIMENSION PREACC(1368,1)
00253 DIMENSION PRECON(1368,1)
00254 DIMENSION HFLUX(1368,1)
00255 DIMENSION EFLUX(1368,1)
00256 DIMENSION FUSION(1368,1)
00257 DIMENSION RADSWG(1368,1)
00258 DIMENSION RADLWG(1368,1)
00259 DIMENSION ICLOUD(1368,1)

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C

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00260 EQUIVALENCE (QS(1,1,1),PHIS(1,1))
00261 EQUIVALENCE (QS(1,2,1),SMTH(1,1))
00262 EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))
00263 EQUIVALENCE (QS(1,4,1),GT(1,1))
00264 EQUIVALENCE (QS(1,5,1),GW(1,1))
00265 EQUIVALENCE (QS(1,6,1),TS(1,1))
00266 EQUIVALENCE (QS(1,7,1),SHS(1,1))
00267 EQUIVALENCE (QS(1,8,1),P(1,1,1))
00268 EQUIVALENCE (QS(1,10,1),TMIN(1,1))
00269 EQUIVALENCE (QS(1,11,1),TMAX(1,1))
00270 EQUIVALENCE (QS(1,12,1),PREACC(1,1))
00271 EQUIVALENCE (QS(1,13,1),PRECON(1,1))
00272 EQUIVALENCE (QS(1,14,1),HFLUX(1,1))
00273 EQUIVALENCE (QS(1,15,1),EFLUX(1,1))
00274 EQUIVALENCE (QS(1,16,1),FUSION(1,1))
00275 EQUIVALENCE (QS(1,17,1),RADSWG(1,1))
00276 EQUIVALENCE (QS(1,18,1),RADLWG(1,1))
00277 EQUIVALENCE (QS(1,19,1),ICLOUD(1,1))

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C

C

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* * *
GLOBAL MODEL UPPER-AIR FIELDS
COMMON /QANDQT/ QU(72,9,14,46)

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00278

C

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00279 DIMENSION U(72,9,14,1)
00280 DIMENSION V(72,9,14,1)
00281 DIMENSION T(72,9,14,1)
00282 DIMENSION SH(72,9,14,1)
00283 DIMENSION PHI(72,9,14,1)
00284 DIMENSION OMEGA(72,126,1)
00285 DIMENSION DIABAT(72,126,1)
00286 DIMENSION RADSW(72,126,1)

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SCNTRL 257
SCNTRL 258
SCNTRL 259
SCNTRL 260
SCNTRL 261
SCNTRL 262
SCNTRL 263
SCNTRL 264
SCNTRL 265
SCNTRL 266
SCNTRL 267
SCNTRL 268
SCNTRL 269
SCNTRL 270
SCNTRL 271
SCNTRL 272
SCNTRL 273
SCNTRL 274
SQANDQT 2
SQANDQT 3
SQANDQT 4
SQANDQT 5
SQANDQT 6
SQANDQT 7
SQANDQT 8
SQANDQT 9
SQANDQT 10
SQANDQT 11
SQANDQT 12
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SQANDQT 49
SQANDQT 50
SQANDQT 51
SQANDQT 52
SQANDQT 53
SQANDQT 54

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```

00330      DO 70 I=1,IM
00331      U(I,L,N,J) = UM(I,L,K)
00332      V(I,L,N,J) = VM(I,L,K)
00333      T(I,L,N,J) = TM(I,L,K)
00334      SH(I,L,N,J) = SHM(I,L,K)
00335      70      CONTINUE
00336      RETURN
00337      END

```

```

SRESTQM 67
SRESTQM 68
SRESTQM 69
SRESTQM 70
SRESTQM 71
SRESTQM 72
SRESTQM 73
SRESTQM 74

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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10	323	318
10000	313	
50	325	316
60	328	326
70	335	329 330

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES	A	C	I	R	S	W
ADATE	CCNTRL	CHAR*8	SIMPLE	3	16					
ADLDP	RDPARM	REAL	SIMPLE	206						
ALBEDO	QANDQT	REAL	ARRAY	244	262					
APHEL	RCNTRL	REAL	SIMPLE	146						
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17					
BETA	RCNTRL	REAL	SIMPLE	147						
CALTOJ	RCNTRL	REAL	SIMPLE	185						
CC	CCNTRL	CHAR*8	ARRAY	14	15					
CCO	CCNTRL	CHAR*8	SIMPLE	2	14	15				
CCNTRL	CCNTRL	REAL	UNKNOWN	2	3	4	5	6	7	8
				13						9
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20					10
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21					11
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22					12
CON1	RDPARM	REAL	SIMPLE	207						
CON1DT	RDPARM	REAL	SIMPLE	208						
CON2	RDPARM	REAL	SIMPLE	209						
CON2DT	RDPARM	REAL	SIMPLE	210						
CON3	RDPARM	REAL	SIMPLE	211						
CON3DT	RDPARM	REAL	SIMPLE	212						
CON4	RDPARM	REAL	SIMPLE	213						
CON4DT	RDPARM	REAL	SIMPLE	214						
CON5	RDPARM	REAL	SIMPLE	215						
CONV	QMSAVE	REAL	ARRAY	311						
COSD	RCNTRL	REAL	SIMPLE	148						
COSL	RDPARM	REAL	ARRAY	216						
COSLON	RDPARM	REAL	ARRAY	217						
CP	RCNTRL	REAL	SIMPLE	149						
CPD2	RDPARM	REAL	SIMPLE	218						
CQS	CCNTRL	REAL	ARRAY	12						
CQU	CCNTRL	REAL	ARRAY	13						
DAYSPPY	RCNTRL	REAL	SIMPLE	150						
DEC	RCNTRL	REAL	SIMPLE	151						
DECMAX	RCNTRL	REAL	SIMPLE	152						
DIABAT	QANDQT	REAL	ARRAY	285	294					
DIST	RCNTRL	REAL	SIMPLE	153						
DLAT	RCNTRL	REAL	SIMPLE	154						
DLOM	RCNTRL	REAL	SIMPLE	155						
OSIG	RDPARM	REAL	ARRAY	239						
DT	RCNTRL	REAL	SIMPLE	156						
DXP	RDPARM	REAL	ARRAY	219						
DXYP	RDPARM	REAL	ARRAY	220						
DYP	RDPARM	REAL	ARRAY	221						
ECCN	RCNTRL	REAL	SIMPLE	157						
EFLUX	QANDQT	REAL	ARRAY	255	273					
EPS	RCNTRL	REAL	SIMPLE	183						
EPSFAC	RCNTRL	REAL	SIMPLE	184						
F1DT	RDPARM	REAL	SIMPLE	223						
F2DT	RDPARM	REAL	SIMPLE	224						

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LC	LCNTRL	LOGICAL	ARRAY	331	332	332	333	333	334	334						
LC0	LCNTRL	LOGICAL	SIMPLE	143	144											
LCNTRL		INTEGER	UNKNOWN	92	143	144										
				92	93	94	95	96	97	98	99	100	101	102		
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	103	104											
LDPARM		INTEGER	UNKNOWN	116	141											
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	200	201	202										
LFUSION	LCNTRL	LOGICAL	UNKNOWN	110	135											
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	111	136											
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	109	134											
LOGBR	ICNTRL	INTEGER	SIMPLE	114	139											
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	42												
LPREACC	LCNTRL	LOGICAL	UNKNOWN	115	140											
LPRECON	LCNTRL	LOGICAL	UNKNOWN	107	132											
LQS	LCNTRL	LOGICAL	ARRAY	108	133											
				103	105	106	107	108	109	110	111	112	113	114		
LQU	LCNTRL	LOGICAL	ARRAY	128												
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	104	115	116	117	129								
LRADSW	LCNTRL	LOGICAL	UNKNOWN	113	138											
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	117	142											
LTMAX	LCNTRL	LOGICAL	UNKNOWN	112	137											
LTMIN	LCNTRL	LOGICAL	UNKNOWN	106	131											
M		INTEGER	SIMPLE	105	130											
MATIN	ICNTRL	INTEGER	SIMPLE	314/S	316	317	319	320	321	322						
MATSNX	ICNTRL	INTEGER	SIMPLE	43												
MATSUN	ICNTRL	INTEGER	SIMPLE	44												
MJ	IDPARM	INTEGER	ARRAY	45												
MLF	ICNTRL	INTEGER	ARRAY	197	314											
MROD	ICNTRL	INTEGER	SIMPLE	46												
MSM	ICNTRL	INTEGER	SIMPLE	47												
N		INTEGER	SIMPLE	49												
NB	ICNTRL	INTEGER	SIMPLE	1	317	319	320	321	322	327	331	332	333	334		
ND	ICNTRL	INTEGER	SIMPLE	50												
NDALT	ICNTRL	INTEGER	SIMPLE	51												
NDAY	ICNTRL	INTEGER	SIMPLE	52												
NDHOG	ICNTRL	INTEGER	SIMPLE	53												
NDOUT	ICNTRL	INTEGER	SIMPLE	74												
NDPHY	ICNTRL	INTEGER	SIMPLE	54												
NDRSW	ICNTRL	INTEGER	SIMPLE	55												
NDSHF	ICNTRL	INTEGER	SIMPLE	29												
NDT	ICNTRL	INTEGER	SIMPLE	56												
NHMS	ICNTRL	INTEGER	SIMPLE	57												
NHMS0	ICNTRL	INTEGER	SIMPLE	58												
NHMS1	IDPARM	INTEGER	SIMPLE	60												
				198												
NHMSE	ICNTRL	INTEGER	SIMPLE	59												
NKRSH	ICNTRL	INTEGER	SIMPLE	48												
NLAY	ICNTRL	INTEGER	SIMPLE	61	318	329										
NLAYM1	ICNTRL	INTEGER	SIMPLE	62												
NLAYP1	ICNTRL	INTEGER	SIMPLE	63												
NMLEV	ICNTRL	INTEGER	SIMPLE	73												
NSDAY	ICNTRL	INTEGER	SIMPLE	64												
NSEQ	ICNTRL	INTEGER	SIMPLE	65												
NSTEP	ICNTRL	INTEGER	SIMPLE	67												
NYMD	ICNTRL	INTEGER	SIMPLE	69												
NYMD0	ICNTRL	INTEGER	SIMPLE	71												
NYMD1	IDPARM	INTEGER	SIMPLE	199												
NYMDE	ICNTRL	INTEGER	SIMPLE	70												
NZINIT	ICNTRL	INTEGER	SIMPLE	72												
OMEGA	QANDOT	REAL	ARRAY	284	293											
OMEGA2	RCNTRL	REAL	SIMPLE	161												
P	QANDOT	REAL	ARRAY	249	267	327/S										
PHI	QANDOT	REAL	ARRAY	283	292											
PHIM	QMSAVE	REAL	ARRAY	308												
PHIP	QPOLES	REAL	ARRAY	302												
PHIS	QANDOT	REAL	ARRAY	242	260											
PI	RCNTRL	REAL	SIMPLE	162												
PI180	RCNTRL	REAL	SIMPLE	163												
PI2	RCNTRL	REAL	SIMPLE	164												
PIMEAN	RCNTRL	REAL	SIMPLE	166												

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[illegible]

TERMT	QMSAVE	REAL	ARRAY	312		
TERMW	QMSAVE	REAL	ARRAY	312		
THSTD	RDPARM	REAL	SIMPLE	236		
THSTD2	RDPARM	REAL	SIMPLE	237		
TM	QMSAVE	REAL	ARRAY	306	321	333
TMAX	QANDQT	REAL	ARRAY	251	269	
TMIN	QANDQT	REAL	ARRAY	250	268	
TP	QPOLES	REAL	ARRAY	300	321/S	
TS	QANDQT	REAL	ARRAY	247	265	
TSTD	RCNTRL	REAL	SIMPLE	179		
U	QANDQT	REAL	ARRAY	279	288	331/S
UM	QMSAVE	REAL	ARRAY	304	319	331
UP	QPOLES	REAL	ARRAY	298	319/S	
V	QANDQT	REAL	ARRAY	280	289	332/S
VER	CCNTRL	CHAR*8	SIMPLE	10	23	
VM	QMSAVE	REAL	ARRAY	305	320	332
VP	QPOLES	REAL	ARRAY	299	320/S	
WSAVE	RDPARM	REAL	ARRAY	238		
XLABEL	CCNTRL	CHAR*B	ARRAY	11	24	

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00001

SUBROUTINE SAVEQM (N, J)

PURPOSE

UTILITY SUBROUTINE TO SAVE 4TH-ORDER MODEL VALUES BY BAND
 SAVE BASE FIELDS TEMPORARILY FOR MATSUNO CORRECTOR STEP
 OR LEAPFROG STEP.
 CALLED BY MAIN (COMPO) ONLY

USAGE

ARGUMENTS

DESCRIPTION

N TIME-STEP POINTER (1 OR 2)
 J LATITUDE BAND NUMBER

SUBPROGRAMS NEEDED

NAME DESCRIPTION
 NONE

RECORD OF MODIFICATIONS

BASED ON OLD VERSION 8.

?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS?
 05/06/83 RAMESH THIS PART AND COMMENTS

REMARKS:

(1) ?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.?

M / A - C O M S I G M A D A T A I N C . N A S A - G S F C

CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD

=====

00002 COMMON /CCNTRL/ CC0
 00003 COMMON /CCNTRL/ ADATE
 00004 COMMON /CCNTRL/ ATIME
 00005 COMMON /CCNTRL/ JIC
 00006 COMMON /CCNTRL/ JOB
 00007 COMMON /CCNTRL/ CCSP06
 00008 COMMON /CCNTRL/ CCSP07
 00009 COMMON /CCNTRL/ CCSP08
 00010 COMMON /CCNTRL/ VER
 00011 COMMON /CCNTRL/ XLABEL (10)
 00012 COMMON /CCNTRL/ CQS (30)
 00013 COMMON /CCNTRL/ CQU (10)
 C
 00014 EQUIVALENCE (CC0, CC(1))
 00015 CHARACTER*8 CC0, CC(200)
 00016 CHARACTER*8 ADATE
 00017 CHARACTER*8 ATIME
 00018 CHARACTER*8 JIC
 00019 CHARACTER*8 JOB
 00020 CHARACTER*8 CCSP06
 00021 CHARACTER*8 CCSP07
 00022 CHARACTER*8 CCSP08
 00023 CHARACTER*8 VER
 00024 CHARACTER*8 XLABEL

INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD

=====

00025 COMMON /ICNTRL/ IC0
 00026 COMMON /ICNTRL/ IM
 00027 COMMON /ICNTRL/ IMD2
 00028 COMMON /ICNTRL/ IMD2P1
 00029 COMMON /ICNTRL/ NDRSW
 00030 COMMON /ICNTRL/ JM
 00031 COMMON /ICNTRL/ JMD2
 00032 COMMON /ICNTRL/ JMT2
 00033 COMMON /ICNTRL/ JNP
 00034 COMMON /ICNTRL/ JO4
 00035 COMMON /ICNTRL/ JO8

SSAVEQM 2
 SSAVEQM 3
 SSAVEQM 4
 SSAVEQM 5
 SSAVEQM 6
 SSAVEQM 7
 SSAVEQM 8
 SSAVEQM 9
 SSAVEQM 10
 SSAVEQM 11
 SSAVEQM 12
 SSAVEQM 13
 SSAVEQM 14
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 SSAVEQM 28
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 SSAVEQM 30
 SSAVEQM 31
 SCNTRL 2
 SCNTRL 3
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 SCNTRL 39
 SCNTRL 40
 SCNTRL 41
 SCNTRL 42

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SAVEQM 1

ORIGINAL FROM 73
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00036	COMMON /ICNTRL/ JSP	SCNTRL 43
00037	COMMON /ICNTRL/ KLIALB	SCNTRL 44
00038	COMMON /ICNTRL/ KLIW	SCNTRL 45
00039	COMMON /ICNTRL/ KLISST	SCNTRL 46
00040	COMMON /ICNTRL/ KS	SCNTRL 47
00041	COMMON /ICNTRL/ KU	SCNTRL 48
00042	COMMON /ICNTRL/ LOGSR	SCNTRL 49
00043	COMMON /ICNTRL/ MATIN	SCNTRL 50
00044	COMMON /ICNTRL/ MATSNX	SCNTRL 51
00045	COMMON /ICNTRL/ MATSUN	SCNTRL 52
00046	COMMON /ICNTRL/ MLF (12)	SCNTRL 53
00047	COMMON /ICNTRL/ MROD	SCNTRL 54
00048	COMMON /ICNTRL/ NKRSH	SCNTRL 55
00049	COMMON /ICNTRL/ MSM	SCNTRL 56
00050	COMMON /ICNTRL/ NB	SCNTRL 57
00051	COMMON /ICNTRL/ ND	SCNTRL 58
00052	COMMON /ICNTRL/ NDALT	SCNTRL 59
00053	COMMON /ICNTRL/ NDAY	SCNTRL 60
00054	COMMON /ICNTRL/ NDOUT	SCNTRL 61
00055	COMMON /ICNTRL/ NDPHY	SCNTRL 62
00056	COMMON /ICNTRL/ NDSHF	SCNTRL 63
00057	COMMON /ICNTRL/ NDT	SCNTRL 64
00058	COMMON /ICNTRL/ NHMS	SCNTRL 65
00059	COMMON /ICNTRL/ NHMSE	SCNTRL 66
00060	COMMON /ICNTRL/ NHMSO	SCNTRL 67
00061	COMMON /ICNTRL/ NLAY	SCNTRL 68
00062	COMMON /ICNTRL/ NLAYM1	SCNTRL 69
00063	COMMON /ICNTRL/ NLAYP1	SCNTRL 70
00064	COMMON /ICNTRL/ NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
C		SCNTRL 84
00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 85
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 86
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 87
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 88
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 89
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 91
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 92
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 93
00086	EQUIVALENCE (IICLOUD ,IQS(10))	SCNTRL 94
C		SCNTRL 95
00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 96
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 97
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 98
C		SCNTRL 99
00090	EQUIVALENCE (IC0,IC(1))	SCNTRL 100
00091	INTEGER IC0, IC(200)	SCNTRL 101
C		SCNTRL 102
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL 103
C	=====	SCNTRL 104
00092	COMMON /LCNTRL/ LCO	SCNTRL 105
00093	COMMON /LCNTRL/ QALT	SCNTRL 106
00094	COMMON /LCNTRL/ QBEG	SCNTRL 107
00095	COMMON /LCNTRL/ QDAY	SCNTRL 108
00096	COMMON /LCNTRL/ QEND	SCNTRL 109
00097	COMMON /LCNTRL/ QOUT	SCNTRL 110
00098	COMMON /LCNTRL/ QPHY	SCNTRL 111
00099	COMMON /LCNTRL/ QSHF	SCNTRL 112
00100	COMMON /LCNTRL/ SN2FLG	SCNTRL 113

00101	COMMON /LCNTRL/	QRSW
00102	COMMON /LCNTRL/	QRSH
00103	COMMON /LCNTRL/	LQS(30)
00104	COMMON /LCNTRL/	LQU(10)
C		
00105	EQUIVALENCE	(LTMIN ,LQS(1))
00106	EQUIVALENCE	(LTMAX ,LQS(2))
00107	EQUIVALENCE	(LPREACC ,LQS(3))
00108	EQUIVALENCE	(LPRECON ,LQS(4))
00109	EQUIVALENCE	(LHFLUX ,LQS(5))
00110	EQUIVALENCE	(LEFLUX ,LQS(6))
00111	EQUIVALENCE	(LFUSION ,LQS(7))
00112	EQUIVALENCE	(LRADSWG ,LQS(8))
00113	EQUIVALENCE	(LRADLWG ,LQS(9))
00114	EQUIVALENCE	(LICLOUD ,LQS(10))
C		
00115	EQUIVALENCE	(LOMEGA ,LQU(1))
00116	EQUIVALENCE	(LDIABAT ,LQU(2))
00117	EQUIVALENCE	(LRADSW ,LQU(3))
C		
00118	LOGICAL	QALT
00119	LOGICAL	QBEG
00120	LOGICAL	QDAY
00121	LOGICAL	QEND
00122	LOGICAL	QOUT
00123	LOGICAL	QPHY
00124	LOGICAL	QSHF
00125	LOGICAL	SN2FLG
00126	LOGICAL	QRSW
00127	LOGICAL	QRSH
C		
00128	LOGICAL	LQS
00129	LOGICAL	LQU
00130	LOGICAL	LTMIN
00131	LOGICAL	LTMAX
00132	LOGICAL	LPREACC
00133	LOGICAL	LPRECON
00134	LOGICAL	LHFLUX
00135	LOGICAL	LEFLUX
00136	LOGICAL	LFUSION
00137	LOGICAL	LRADSWG
00138	LOGICAL	LRADLWG
00139	LOGICAL	LICLOUD
C		
00140	LOGICAL	LOMEGA
00141	LOGICAL	LDIABAT
00142	LOGICAL	LRADSW
C		
00143	EQUIVALENCE	(LCO,LC(1))
00144	LOGICAL	LCO, LC(200)
C		
REAL MODEL PARAMETERS SAVED ON HISTORY RECORD		
C		
=====		
00145	COMMON /RCNTRL/	RCO
00146	COMMON /RCNTRL/	APHEL
00147	COMMON /RCNTRL/	BETA
00148	COMMON /RCNTRL/	COSD
00149	COMMON /RCNTRL/	CP
00150	COMMON /RCNTRL/	DAYSPLY
00151	COMMON /RCNTRL/	DEC
00152	COMMON /RCNTRL/	DECMAX
00153	COMMON /RCNTRL/	DIST
00154	COMMON /RCNTRL/	DLAT
00155	COMMON /RCNTRL/	DLON
00156	COMMON /RCNTRL/	DT
00157	COMMON /RCNTRL/	ECCN
00158	COMMON /RCNTRL/	GNU1
00159	COMMON /RCNTRL/	GNU2
00160	COMMON /RCNTRL/	GRAV
00161	COMMON /RCNTRL/	OMEGA2
00162	COMMON /RCNTRL/	PI

SCNTRL	114
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00163	COMMON /RCNTRL/	PI180	SCNTRL 185
00164	COMMON /RCNTRL/	PI2	SCNTRL 186
00165	COMMON /RCNTRL/	PSTD	SCNTRL 187
00166	COMMON /RCNTRL/	PIMEAN	SCNTRL 188
00167	COMMON /RCNTRL/	PSMAX	SCNTRL 189
00168	COMMON /RCNTRL/	PSMIN	SCNTRL 190
00169	COMMON /RCNTRL/	PTOP	SCNTRL 191
00170	COMMON /RCNTRL/	RADE	SCNTRL 192
00171	COMMON /RCNTRL/	RGAS	SCNTRL 193
00172	COMMON /RCNTRL/	ROCP	SCNTRL 194
00173	COMMON /RCNTRL/	RSDIST	SCNTRL 195
00174	COMMON /RCNTRL/	SDAY	SCNTRL 196
00175	COMMON /RCNTRL/	SEASON	SCNTRL 197
00176	COMMON /RCNTRL/	SIGE (25)	SCNTRL 198
00177	COMMON /RCNTRL/	SIND	SCNTRL 199
00178	COMMON /RCNTRL/	SOLS	SCNTRL 200
00179	COMMON /RCNTRL/	TSTD	SCNTRL 201
00180	COMMON /RCNTRL/	PLEVS (25)	SCNTRL 202
00181	COMMON /RCNTRL/	HEATW	SCNTRL 203
00182	COMMON /RCNTRL/	HEATI	SCNTRL 204
00183	COMMON /RCNTRL/	EPS	SCNTRL 205
00184	COMMON /RCNTRL/	EPSFAC	SCNTRL 206
00185	COMMON /RCNTRL/	CALTOJ	SCNTRL 207
00186	COMMON /RCNTRL/	PZERO	SCNTRL 208
00187	C	EQUIVALENCE (RCO,RC(1))	SCNTRL 209
00188	C	REAL RCO, RC(200)	SCNTRL 210
	C	INTEGER MODEL CONSTANTS	SCNTRL 211
	C	=====	SCNTRL 212
00189	COMMON /IDPARM/	IJUMP (46)	SCNTRL 213
00190	COMMON /IDPARM/	IDSP02	SCNTRL 214
00191	COMMON /IDPARM/	INDEX (72)	SCNTRL 215
00192	COMMON /IDPARM/	IROD	SCNTRL 216
00193	COMMON /IDPARM/	JC (46)	SCNTRL 217
00194	COMMON /IDPARM/	JE (2)	SCNTRL 218
00195	COMMON /IDPARM/	JP (2,2)	SCNTRL 219
00196	COMMON /IDPARM/	KSTEP	SCNTRL 220
00197	COMMON /IDPARM/	MJ (46)	SCNTRL 221
00198	COMMON /IDPARM/	NHMS1	SCNTRL 222
00199	COMMON /IDPARM/	NYMD1	SCNTRL 223
	C	LOGICAL MODEL CONSTANTS	SCNTRL 224
	C	=====	SCNTRL 225
00200	COMMON /LDPARM/	FILTER (46)	SCNTRL 226
00201	COMMON /LDPARM/	ITAPE	SCNTRL 227
00202	COMMON /LDPARM/	START	SCNTRL 228
	C	LOGICAL FILTER	SCNTRL 229
00203	LOGICAL	ITAPE	SCNTRL 230
00204	LOGICAL	START	SCNTRL 231
00205	LOGICAL		SCNTRL 232
	C	REAL MODEL CONSTANTS	SCNTRL 233
	C	=====	SCNTRL 234
00206	COMMON /RDPARM/	ADLDP	SCNTRL 235
00207	COMMON /RDPARM/	CON1	SCNTRL 236
00208	COMMON /RDPARM/	CON1DT	SCNTRL 237
00209	COMMON /RDPARM/	CON2	SCNTRL 238
00210	COMMON /RDPARM/	CON2DT	SCNTRL 239
00211	COMMON /RDPARM/	CON3	SCNTRL 240
00212	COMMON /RDPARM/	CON3DT	SCNTRL 241
00213	COMMON /RDPARM/	CON4	SCNTRL 242
00214	COMMON /RDPARM/	CON4DT	SCNTRL 243
00215	COMMON /RDPARM/	CON5	SCNTRL 244
00216	COMMON /RDPARM/	COSL (46)	SCNTRL 245
00217	COMMON /RDPARM/	COSLON (72)	SCNTRL 246
00218	COMMON /RDPARM/	CPD2	SCNTRL 247
00219	COMMON /RDPARM/	DXP (46)	SCNTRL 248
00220	COMMON /RDPARM/	DXYP (46)	SCNTRL 249
00221	COMMON /RDPARM/	DYP (46)	SCNTRL 250
00222	COMMON /RDPARM/	FCORLS (46)	SCNTRL 251
			SCNTRL 252
			SCNTRL 253
			SCNTRL 254
			SCNTRL 255

00223 COMMON /RDPARM/ F1DT
 00224 COMMON /RDPARM/ F2DT
 00225 COMMON /RDPARM/ H1DT
 00226 COMMON /RDPARM/ H2DT
 00227 COMMON /RDPARM/ PKSTD
 00228 COMMON /RDPARM/ PKTOP
 00229 COMMON /RDPARM/ RLAT (46)
 00230 COMMON /RDPARM/ RLATD (46)
 00231 COMMON /RDPARM/ ROCPDT
 00232 COMMON /RDPARM/ ROCPPI
 00233 COMMON /RDPARM/ SGNP (2)
 00234 COMMON /RDPARM/ SINL (46)
 00235 COMMON /RDPARM/ SINLON (72)
 00236 COMMON /RDPARM/ THSTD
 00237 COMMON /RDPARM/ THSTD2
 00238 COMMON /RDPARM/ WSAVE (159)
 00239 COMMON /RDPARM/ DSIG (9)
 00240 COMMON /RDPARM/ SIG (9)

C

C

C

GLOBAL MODEL SURFACE FIELDS

00241 COMMON /QANDQT/ QS(72,19,46)

C

00242 DIMENSION PHIS(1368,1)
 00243 DIMENSION SMTH(1368,23)
 00244 DIMENSION ALBEDO(1368,1)
 00245 DIMENSION GT(1368,1)
 00246 DIMENSION GW(1368,1)
 00247 DIMENSION TS(1368,1)
 00248 DIMENSION SHS(1368,1)
 00249 DIMENSION P(72,19,1)
 00250 DIMENSION TMIN(1368,1)
 00251 DIMENSION TMAX(1368,1)
 00252 DIMENSION PREACC(1368,1)
 00253 DIMENSION PRECON(1368,1)
 00254 DIMENSION HFLUX(1368,1)
 00255 DIMENSION EFLUX(1368,1)
 00256 DIMENSION FUSION(1368,1)
 00257 DIMENSION RADSWG(1368,1)
 00258 DIMENSION RADLWG(1368,1)
 00259 DIMENSION ICLOUD(1368,1)

C

00260 EQUIVALENCE (QS(1,1,1),PHIS(1,1))
 00261 EQUIVALENCE (QS(1,2,1),SMTH(1,1))
 00262 EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))
 00263 EQUIVALENCE (QS(1,4,1),GT(1,1))
 00264 EQUIVALENCE (QS(1,5,1),GW(1,1))
 00265 EQUIVALENCE (QS(1,6,1),TS(1,1))
 00266 EQUIVALENCE (QS(1,7,1),SHS(1,1))
 00267 EQUIVALENCE (QS(1,8,1),P(1,1,1))
 00268 EQUIVALENCE (QS(1,10,1),TMIN(1,1))
 00269 EQUIVALENCE (QS(1,11,1),TMAX(1,1))
 00270 EQUIVALENCE (QS(1,12,1),PREACC(1,1))
 00271 EQUIVALENCE (QS(1,13,1),PRECON(1,1))
 00272 EQUIVALENCE (QS(1,14,1),HFLUX(1,1))
 00273 EQUIVALENCE (QS(1,15,1),EFLUX(1,1))
 00274 EQUIVALENCE (QS(1,16,1),FUSION(1,1))
 00275 EQUIVALENCE (QS(1,17,1),RADSWG(1,1))
 00276 EQUIVALENCE (QS(1,18,1),RADLWG(1,1))
 00277 EQUIVALENCE (QS(1,19,1),ICLOUD(1,1))

C

C

GLOBAL MODEL UPPER-AIR FIELDS

00278 COMMON /QANDQT/ QU(72,9,14,46)

C

00279 DIMENSION U(72,9,14,1)
 00280 DIMENSION V(72,9,14,1)
 00281 DIMENSION T(72,9,14,1)
 00282 DIMENSION SH(72,9,14,1)
 00283 DIMENSION PHI(72,9,14,1)
 00284 DIMENSION OMEGA(72,126,1)
 00285 DIMENSION DIABAT(72,126,1)

SCNTRL 256
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 SCNTRL 274

SQANDQT 2
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 SQANDQT 53

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00286      DIMENSION      RADSW(72,126,1)      SQANDQT 54
00287      DIMENSION      RADLW(72,126,1)      SQANDQT 55
C
00288      EQUIVALENCE      (QU(1,1,1,1),U(1,1,1,1))      SQANDQT 56
00289      EQUIVALENCE      (QU(1,1,3,1),V(1,1,1,1))      SQANDQT 57
00290      EQUIVALENCE      (QU(1,1,5,1),T(1,1,1,1))      SQANDQT 58
00291      EQUIVALENCE      (QU(1,1,7,1),SH(1,1,1,1))      SQANDQT 59
00292      EQUIVALENCE      (QU(1,1,9,1),PHI(1,1,1,1))      SQANDQT 60
00293      EQUIVALENCE      (QU(1,1,11,1),OMEGA(1,1,1,1))      SQANDQT 61
00294      EQUIVALENCE      (QU(1,1,12,1),DIABAT(1,1,1,1))      SQANDQT 62
00295      EQUIVALENCE      (QU(1,1,13,1),RADSW(1,1,1,1))      SQANDQT 63
00296      EQUIVALENCE      (QU(1,1,14,1),RADLW(1,1,1,1))      SQANDQT 64
C
C      * * *
C      POLAR MODEL PROGNOSTIC FIELDS      SQANDQT 65
C      COMMON /QPOLES/ PP(2,2)      SQANDQT 66
00297      COMMON /QPOLES/ UP(9,2,2)      SQPOLES 2
00298      COMMON /QPOLES/ VP(9,2,2)      SQPOLES 3
00299      COMMON /QPOLES/ TP(9,2,2)      SQPOLES 4
00300      COMMON /QPOLES/ SHP(9,2,2)      SQPOLES 5
00301      COMMON /QPOLES/ PHIP(9,2,2)      SQPOLES 6
00302      COMMON /QPOLES/ PHIP(9,2,2)      SQPOLES 7
C
C      * * *
C      GLOBAL BAND MODULO SAVE AREAS DURING HYDRODYNAMICS STEP      SQPOLES 8
C      COMMON /QMSAVE/ PM(72,5)      SQPOLES 9
00303      COMMON /QMSAVE/ UM(72,9,5)      SQMSAVE 2
00304      COMMON /QMSAVE/ VM(72,9,5)      SQMSAVE 3
00305      COMMON /QMSAVE/ TM(72,9,5)      SQMSAVE 4
00306      COMMON /QMSAVE/ SHM(72,9,5)      SQMSAVE 5
00307      COMMON /QMSAVE/ PHIM(72,9,5)      SQMSAVE 6
00308      COMMON /QMSAVE/ PV(72,9,5)      SQMSAVE 7
00309      COMMON /QMSAVE/ PIT(72,5)      SQMSAVE 8
00310      COMMON /QMSAVE/ CONV(72,9,5), SD(72,9,5)      SQMSAVE 9
00311      COMMON /QMSAVE/ TERMW(72,9,5), TERMT(72,9,5)      SQMSAVE 10
00312      COMMON /QMSAVE/ TERMW(72,9,5), TERMT(72,9,5)      SQMSAVE 11
C
C      * * *
C      DEBUG      SQMSAVE 12
00313      10000 CONTINUE      SQMSAVE 13
C      ***** CYBER SCALAR VERSION 04.001 INPUT.IOQ      SQMSAVE 14
C      ***** CYBER SCALAR VERSION 04.000      SSAVEEQM 36
C      ***** CYBER SCALAR VERSION 00      SBEGDEB 2
C      C*****      SBEGDEB 3
00314      M = MJ(J)      SBEGDEB 4
00315      K = JC(J)      SBEGDEB 5
00316      IF (M.EQ.0) GO TO 50      SBEGDEB 6
C      *****      SBEGDEB 7
C      *****      SSAVEEQM 38
C      *****      SSAVEEQM 39
C      *****      SSAVEEQM 40
C      *****      SSAVEEQM 41
C      *****      SSAVEEQM 42
C      *****      SSAVEEQM 43
C      *****      SSAVEEQM 44
C      *****      SSAVEEQM 45
C      *****      SSAVEEQM 46
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C      *****      SSAVEEQM 63
C      *****      SSAVEEQM 64
C      *****      SSAVEEQM 65
C      *****      SSAVEEQM 66
C
00317      PM(1,K) = PP(N,M)      DO 10 L=1,NLAY
00318      UM(1,L,K) = UP(L,N,M)
00319      VM(1,L,K) = VP(L,N,M)
00320      TM(1,L,K) = TP(L,N,M)
00321      SHM(1,L,K) = SHP(L,N,M)
00322      10 CONTINUE
00323      RETURN
00324
C
C      *****      SSAVEEQM 57
C      *****      SSAVEEQM 58
C      *****      SSAVEEQM 59
C      *****      SSAVEEQM 60
C      *****      SSAVEEQM 61
C      *****      SSAVEEQM 62
C      *****      SSAVEEQM 63
C      *****      SSAVEEQM 64
C      *****      SSAVEEQM 65
C      *****      SSAVEEQM 66
C
00325      50 CONTINUE
00326      DO 60 I=1,IM
00327      PM(I,K) = P(I,N,J)
00328      60 CONTINUE

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00329      DO 70 L=1,NLAY
00330      DO 70 I=1,IM
00331      UM(I,L,K) = U(I,L,N,J)
00332      VM(I,L,K) = V(I,L,N,J)
00333      TM(I,L,K) = T(I,L,N,J)
00334      SHM(I,L,K) = SH(I,L,N,J)
00335      70 CONTINUE
00336      RETURN
00337      END

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SSAVEQM 67
SSAVEQM 68
SSAVEQM 69
SSAVEQM 70
SSAVEQM 71
SSAVEQM 72
SSAVEQM 73
SSAVEQM 74
SSAVEQM 75

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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10	323	318
10000	313	
50	325	316
50	328	326
70	335	329 330

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES	A	C	I	R	S	W
ADATE	CCNTRL	CHAR*8	SIMPLE	3	16					
ADLDP	RDPARM	REAL	SIMPLE	206						
ALBEDO	QANDQT	REAL	ARRAY	244	262					
APHEL	RCNTRL	REAL	SIMPLE	146						
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17					
BETA	RCNTRL	REAL	SIMPLE	147						
CALTOJ	RCNTRL	REAL	SIMPLE	185						
CC	CCNTRL	CHAR*8	ARRAY	14	15					
CCO	CCNTRL	CHAR*8	SIMPLE	2	14	15				
CCNTRL		REAL	UNKNOWN	2	3	4	5	6	7	8
				13						9
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20					10
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21					11
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22					12
CON1	RDPARM	REAL	SIMPLE	207						
CON1DT	RDPARM	REAL	SIMPLE	208						
CON2	RDPARM	REAL	SIMPLE	209						
CON2DT	RDPARM	REAL	SIMPLE	210						
CON3	RDPARM	REAL	SIMPLE	211						
CON3DT	RDPARM	REAL	SIMPLE	212						
CON4	RDPARM	REAL	SIMPLE	213						
CON4DT	RDPARM	REAL	SIMPLE	214						
CON5	RDPARM	REAL	SIMPLE	215						
CONV	QMSAVE	REAL	ARRAY	311						
COSD	RCNTRL	REAL	SIMPLE	148						
COSL	RDPARM	REAL	ARRAY	216						
COSLOW	RDPARM	REAL	ARRAY	217						
CP	RCNTRL	REAL	SIMPLE	149						
CPD2	RDPARM	REAL	SIMPLE	218						
CQS	CCNTRL	REAL	ARRAY	12						
CQU	CCNTRL	REAL	ARRAY	13						
DAYSPLY	RCNTRL	REAL	SIMPLE	150						
DEC	RCNTRL	REAL	SIMPLE	151						
DECMAX	RCNTRL	REAL	SIMPLE	152						
DIABAT	QANDQT	REAL	ARRAY	285	294					
DIST	RCNTRL	REAL	SIMPLE	153						
DLAT	RCNTRL	REAL	SIMPLE	154						
DLON	RCNTRL	REAL	SIMPLE	155						
DSIG	RDPARM	REAL	ARRAY	239						
DT	RCNTRL	REAL	SIMPLE	156						
DXP	RDPARM	REAL	ARRAY	219						
DXYP	RDPARM	REAL	ARRAY	220						
DYP	RDPARM	REAL	ARRAY	221						
ECCN	RCNTRL	REAL	SIMPLE	157						
EFLUX	QANDQT	REAL	ARRAY	255	273					
EPS	RCNTRL	REAL	SIMPLE	183						
EPSFAC	RCNTRL	REAL	SIMPLE	184						
F1DT	RDPARM	REAL	SIMPLE	223						

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[illegible]

L		INTEGER	SIMPLE	318/C	319	319	320	320	321	321	322	322	329/C	331
LC	LCNTRL	LOGICAL	ARRAY	331	332	332	333	333	334	334				
LCQ	LCNTRL	LOGICAL	SIMPLE	143	144									
LCNTRL	LCNTRL	INTEGER	UNKNOWN	92	143	144								
				92	93	94	95	96	97	98	99	100	101	102
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	103	104									
LDPARM		INTEGER	UNKNOWN	116	141									
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	200	201	202								
LFUSION	LCNTRL	LOGICAL	UNKNOWN	110	135									
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	111	136									
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	109	134									
LOGBR	LCNTRL	INTEGER	UNKNOWN	114	139									
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	42										
LPREACC	LCNTRL	LOGICAL	UNKNOWN	115	140									
LPRECON	LCNTRL	LOGICAL	UNKNOWN	107	132									
LQS	LCNTRL	LOGICAL	ARRAY	108	133									
				103	105	106	107	108	109	110	111	112	113	114
				128										
LQU	LCNTRL	LOGICAL	ARRAY	104	115									
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138	116	117	129						
LRAWSW	LCNTRL	LOGICAL	UNKNOWN	117	142									
LRAWSWG	LCNTRL	LOGICAL	UNKNOWN	112	137									
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131									
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130									
M		INTEGER	SIMPLE	314/S	316	317	319	320	321	322				
MATIN	ICNTRL	INTEGER	SIMPLE	43										
MATSNX	ICNTRL	INTEGER	SIMPLE	44										
MATSUN	ICNTRL	INTEGER	SIMPLE	45										
MJ	IDPARM	INTEGER	ARRAY	197	314									
MLF	ICNTRL	INTEGER	ARRAY	46										
MROD	ICNTRL	INTEGER	SIMPLE	47										
MSM	ICNTRL	INTEGER	SIMPLE	49										
N		INTEGER	SIMPLE	1	317	319	320	321	322	327	331	332	333	334
NB	ICNTRL	INTEGER	SIMPLE	50										
ND	ICNTRL	INTEGER	SIMPLE	51										
NDALT	ICNTRL	INTEGER	SIMPLE	52										
NDAY	ICNTRL	INTEGER	SIMPLE	53										
NDHOG	ICNTRL	INTEGER	SIMPLE	74										
NDOUT	ICNTRL	INTEGER	SIMPLE	54										
NDRPHY	ICNTRL	INTEGER	SIMPLE	55										
NDRSW	ICNTRL	INTEGER	SIMPLE	29										
NDSHF	ICNTRL	INTEGER	SIMPLE	56										
NDT	ICNTRL	INTEGER	SIMPLE	57										
NHMS	ICNTRL	INTEGER	SIMPLE	58										
NHMS0	ICNTRL	INTEGER	SIMPLE	60										
NHMS1	IDPARM	INTEGER	SIMPLE	198										
NHMSE	ICNTRL	INTEGER	SIMPLE	59										
NKRSH	ICNTRL	INTEGER	SIMPLE	48										
NLAY	ICNTRL	INTEGER	SIMPLE	61	318	329								
NLAYM1	ICNTRL	INTEGER	SIMPLE	62										
NLAYP1	ICNTRL	INTEGER	SIMPLE	63										
NMLEV	ICNTRL	INTEGER	SIMPLE	73										
NSDAY	ICNTRL	INTEGER	SIMPLE	64										
NSEQ	ICNTRL	INTEGER	SIMPLE	65										
NSTEP	ICNTRL	INTEGER	SIMPLE	67										
NYMD	ICNTRL	INTEGER	SIMPLE	69										
NYMD0	ICNTRL	INTEGER	SIMPLE	71										
NYMD1	IDPARM	INTEGER	SIMPLE	199										
NYMDE	ICNTRL	INTEGER	SIMPLE	70										
NZINIT	ICNTRL	INTEGER	SIMPLE	72										
OMEGA	QANDQT	REAL	ARRAY	284	293									
OMEGA2	RCNTRL	REAL	SIMPLE	161										
P	QANDQT	REAL	ARRAY	249	267	327								
PHI	QANDQT	REAL	ARRAY	283	292									
PHIM	QMSAVE	REAL	ARRAY	308										
PHIP	QPOLES	REAL	ARRAY	302										
PHIS	QANDQT	REAL	ARRAY	242	260									
PI	RCNTRL	REAL	SIMPLE	162										
PI180	RCNTRL	REAL	SIMPLE	163										
PI2	RCNTRL	REAL	SIMPLE	164										

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PIMEAN	RCNTRL	REAL	SIMPLE	166																
PIT	QMSAVE	REAL	ARRAY	310																
PKSTD	RDPAARM	REAL	SIMPLE	227																
PKTOP	RDPAARM	REAL	SIMPLE	228																
PLEVS	RCNTRL	REAL	ARRAY	180																
PM	QMSAVE	REAL	ARRAY	303	317/S	327/S														
PP	QPOLES	REAL	ARRAY	297	317															
PREACC	QANDQT	REAL	ARRAY	252	270															
PRECON	QANDQT	REAL	ARRAY	253	271															
PSMAX	RCNTRL	REAL	SIMPLE	167																
PSMIN	RCNTRL	REAL	SIMPLE	168																
PSTD	RCNTRL	REAL	SIMPLE	165																
PTOP	RCNTRL	REAL	SIMPLE	169																
PV	QMSAVE	REAL	ARRAY	309																
PZERO	RCNTRL	REAL	SIMPLE	186																
QALT	LCNTRL	LOGICAL	SIMPLE	93	118															
QANDQT	RCNTRL	REAL	UNKNOWN	241	278															
QBEG	LCNTRL	LOGICAL	SIMPLE	94	119															
QDAY	LCNTRL	LOGICAL	SIMPLE	95	120															
QEND	LCNTRL	LOGICAL	SIMPLE	96	121															
QMSAVE	RCNTRL	REAL	UNKNOWN	303	304	305	306	307	308	309	310	311	312							
QOUT	LCNTRL	LOGICAL	SIMPLE	97	122															
QPHY	LCNTRL	LOGICAL	SIMPLE	98	123															
QPOLES	RCNTRL	REAL	UNKNOWN	297	298	299	300	301	302											
QRSH	LCNTRL	LOGICAL	SIMPLE	102	127															
QRSW	LCNTRL	LOGICAL	SIMPLE	101	126															
QS	QANDQT	REAL	ARRAY	241	260	261	262	263	264	265	266	267	268	269						
				270	271	272	273	274	275	276	277									
QSHF	LCNTRL	LOGICAL	SIMPLE	99	124															
QU	QANDQT	REAL	ARRAY	278	288	289	290	291	292	293	294	295	296							
RADE	RCNTRL	REAL	SIMPLE	170																
RADLW	QANDQT	REAL	ARRAY	287	296															
RADLWG	QANDQT	REAL	ARRAY	258	276															
RADSW	QANDQT	REAL	ARRAY	286	295															
RADSWG	QANDQT	REAL	ARRAY	257	275															
RC	RCNTRL	REAL	ARRAY	187	188															
RCO	RCNTRL	REAL	SIMPLE	145	187	188														
RCNTRL	RCNTRL	REAL	UNKNOWN	145	146	147	148	149	150	151	152	153	154	155						
				156	157	158	159	160	161	162	163	164	165	166						
				167	168	169	170	171	172	173	174	175	176	177						
				178	179	180	181	182	183	184	185	186								
RDPAARM		REAL	UNKNOWN	206	207	208	209	210	211	212	213	214	215	216						
				217	218	219	220	221	222	223	224	225	226	227						
				228	229	230	231	232	233	234	235	236	237	238						
				239	240															
RGAS	RCNTRL	REAL	SIMPLE	171																
RLAT	RDPAARM	REAL	ARRAY	229																
RLATD	RDPAARM	REAL	ARRAY	230																
ROCP	RCNTRL	REAL	SIMPLE	172																
ROCPDT	RDPAARM	REAL	SIMPLE	231																
ROCPPI	RDPAARM	REAL	SIMPLE	232																
RSDIST	RCNTRL	REAL	SIMPLE	173																
SAVEQM			SUBROUTINE	1																
SD	QMSAVE	REAL	ARRAY	311																
SDAY	RCNTRL	REAL	SIMPLE	174																
SEASON	RCNTRL	REAL	SIMPLE	175																
SGNP	RDPAARM	REAL	ARRAY	233																
SH	QANDQT	REAL	ARRAY	282	291	334														
SHM	QMSAVE	REAL	ARRAY	307	322/S	334/S														
SHP	QPOLES	REAL	ARRAY	301	322															
SHS	QANDQT	REAL	ARRAY	248	266															
SIG	RDPAARM	REAL	ARRAY	240																
SIGE	RCNTRL	REAL	ARRAY	176																
SIND	RCNTRL	REAL	SIMPLE	177																
SINL	RDPAARM	REAL	ARRAY	234																
SINLON	RDPAARM	REAL	ARRAY	235																
SMTH	QANDQT	REAL	ARRAY	243	261															
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125															
SOLS	RCNTRL	REAL	SIMPLE	178																
START	LDPAARM	LOGICAL	SIMPLE	202	205															

T	QANDQT	REAL	ARRAY	281	290	333
TERMT	QMSAVE	REAL	ARRAY	312		
TERMW	QMSAVE	REAL	ARRAY	312		
THSTD	RDPARM	REAL	SIMPLE	236		
THSTD2	RDPARM	REAL	SIMPLE	237		
TM	QMSAVE	REAL	ARRAY	306	321/S	333/S
TMAX	QANDQT	REAL	ARRAY	251	269	
TMIN	QANDQT	REAL	ARRAY	250	268	
TP	QPOLES	REAL	ARRAY	300	321	
TS	QANDQT	REAL	ARRAY	247	265	
TSTD	RCNTRL	REAL	SIMPLE	179		
U	QANDQT	REAL	ARRAY	279	288	331
UM	QMSAVE	REAL	ARRAY	304	319/S	331/S
UP	QPOLES	REAL	ARRAY	298	319	
V	QANDQT	REAL	ARRAY	280	289	332
VER	CCNTRL	CHAR*8	SIMPLE	10	23	
VM	QMSAVE	REAL	ARRAY	305	320/S	332/S
VP	QPOLES	REAL	ARRAY	299	320	
WSAVE	RDPARM	REAL	ARRAY	238		
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24	

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SAVEQ 11

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00001 SUBROUTINE SCALEQ (N, J, KSC)
C .....
C PURPOSE
C UTILITY SUBROUTINE TO SCALE 4TH-ORDER MODEL VALUES.
C SCALES BASE FIELDS BY VOLUME ELEMENT.
C CALLED BY COMPO ONLY
C .....
C USAGE
C .....
C ARGUMENTS DESCRIPTION
C N TIME-STEP POINTER (1 OR 2)
C J LATITUDE BAND NUMBER
C KSC SCALING EXPONENT (1 TO SCALE, -1 TO UNSCALE)
C .....
C SUBPROGRAMS NEEDED
C NAME DESCRIPTION
C NONE
C .....
C RECORD OF MODIFICATIONS
C BASED ON OLD VERSION 8.
C ?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS?
C 05/06/83 RAMESH THIS PART AND COMMENTS
C .....
C REMARKS:
C (1) ?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.?
C .....
C M / A - G O M S I G M A D A T A I N C . N A S A - G S F C
C .....
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00002 COMMON /CCNTRL/ CC0
00003 COMMON /CCNTRL/ ADATE
00004 COMMON /CCNTRL/ ATIME
00005 COMMON /CCNTRL/ JIC
00006 COMMON /CCNTRL/ JOB
00007 COMMON /CCNTRL/ CCSP06
00008 COMMON /CCNTRL/ CCSP07
00009 COMMON /CCNTRL/ CCSP08
00010 COMMON /CCNTRL/ VER
00011 COMMON /CCNTRL/ XLABEL (10)
00012 COMMON /CCNTRL/ CQS (30)
00013 COMMON /CCNTRL/ CQU (10)
C .....
00014 EQUIVALENCE (CC0, CC(1))
00015 CHARACTER*8 CC0, CC(200)
00016 CHARACTER*8 ADATE
00017 CHARACTER*8 ATIME
00018 CHARACTER*8 JIC
00019 CHARACTER*8 JOB
00020 CHARACTER*8 CCSP06
00021 CHARACTER*8 CCSP07
00022 CHARACTER*8 CCSP08
00023 CHARACTER*8 VER
00024 CHARACTER*8 XLABEL
C .....
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00025 COMMON /ICNTRL/ IC0
00026 COMMON /ICNTRL/ IM
00027 COMMON /ICNTRL/ IMD2
00028 COMMON /ICNTRL/ IMD2P1
00029 COMMON /ICNTRL/ NDRSW
00030 COMMON /ICNTRL/ JM
00031 COMMON /ICNTRL/ JMD2
00032 COMMON /ICNTRL/ JMT2
00033 COMMON /ICNTRL/ JNP
00034 COMMON /ICNTRL/ JO4
00035 COMMON /ICNTRL/ JO8

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SSCALEQ 2
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SCALEQ 1

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00036	COMMON /ICNTRL/ JSP	SCNTRL 43
00037	COMMON /ICNTRL/ KLIALB	SCNTRL 44
00038	COMMON /ICNTRL/ KLIGW	SCNTRL 45
00039	COMMON /ICNTRL/ KLISST	SCNTRL 46
00040	COMMON /ICNTRL/ KS	SCNTRL 47
00041	COMMON /ICNTRL/ KU	SCNTRL 48
00042	COMMON /ICNTRL/ LOGBR	SCNTRL 49
00043	COMMON /ICNTRL/ MATIN	SCNTRL 50
00044	COMMON /ICNTRL/ MATSNX	SCNTRL 51
00045	COMMON /ICNTRL/ MATSUN	SCNTRL 52
00046	COMMON /ICNTRL/ MLF (12)	SCNTRL 53
00047	COMMON /ICNTRL/ MRDOD	SCNTRL 54
00048	COMMON /ICNTRL/ NKRSR	SCNTRL 55
00049	COMMON /ICNTRL/ MSM	SCNTRL 56
00050	COMMON /ICNTRL/ NB	SCNTRL 57
00051	COMMON /ICNTRL/ ND	SCNTRL 58
00052	COMMON /ICNTRL/ NDALT	SCNTRL 59
00053	COMMON /ICNTRL/ NDAY	SCNTRL 60
00054	COMMON /ICNTRL/ NDOUT	SCNTRL 61
00055	COMMON /ICNTRL/ NDPHY	SCNTRL 62
00056	COMMON /ICNTRL/ NDSHF	SCNTRL 63
00057	COMMON /ICNTRL/ NDT	SCNTRL 64
00058	COMMON /ICNTRL/ NHMS	SCNTRL 65
00059	COMMON /ICNTRL/ NHMSE	SCNTRL 66
00060	COMMON /ICNTRL/ NHM50	SCNTRL 67
00061	COMMON /ICNTRL/ NLAY	SCNTRL 68
00062	COMMON /ICNTRL/ NLAYM1	SCNTRL 69
00063	COMMON /ICNTRL/ NLAYP1	SCNTRL 70
00064	COMMON /ICNTRL/ NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMD0	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
C		SCNTRL 84
00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 85
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 86
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 87
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 88
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 89
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 91
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 92
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 93
00086	EQUIVALENCE (IICLOUD ,IQS(10))	SCNTRL 94
C		SCNTRL 95
00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 96
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 97
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 98
C		SCNTRL 99
00090	EQUIVALENCE (IC0,IC(1))	SCNTRL 100
00091	INTEGER IC0, IC(200)	SCNTRL 101
C		SCNTRL 102
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL 103
C	=====	SCNTRL 104
00092	COMMON /LCNTRL/ LCO	SCNTRL 105
00093	COMMON /LCNTRL/ QALT	SCNTRL 106
00094	COMMON /LCNTRL/ QBEG	SCNTRL 107
00095	COMMON /LCNTRL/ QDAY	SCNTRL 108
00096	COMMON /LCNTRL/ QEND	SCNTRL 109
00097	COMMON /LCNTRL/ QOUT	SCNTRL 110
00098	COMMON /LCNTRL/ QPHY	SCNTRL 111
00099	COMMON /LCNTRL/ QSHF	SCNTRL 112
00100	COMMON /LCNTRL/ SN2FLG	SCNTRL 113

00101 COMMON /LCNTRL/ QRSW
 00102 COMMON /LCNTRL/ QRSH
 00103 COMMON /LCNTRL/ LQS(30)
 00104 COMMON /LCNTRL/ LQU(10)

C
 00105 EQUIVALENCE (LTMIN ,LQS(1))
 00106 EQUIVALENCE (LTMAX ,LQS(2))
 00107 EQUIVALENCE (LPREACC ,LQS(3))
 00108 EQUIVALENCE (LPRECON ,LQS(4))
 00109 EQUIVALENCE (LHFLUX ,LQS(5))
 00110 EQUIVALENCE (LEFLUX ,LQS(6))
 00111 EQUIVALENCE (LFUSION ,LQS(7))
 00112 EQUIVALENCE (LRADSWG ,LQS(8))
 00113 EQUIVALENCE (LRADLWG ,LQS(9))
 00114 EQUIVALENCE (LICLOUD ,LQS(10))

C
 00115 EQUIVALENCE (LOMEGA ,LOU(1))
 00116 EQUIVALENCE (LDIABAT ,LOU(2))
 00117 EQUIVALENCE (LRADSW ,LOU(3))

C
 00118 LOGICAL QALT
 00119 LOGICAL QBEG
 00120 LOGICAL QDAY
 00121 LOGICAL QEND
 00122 LOGICAL QOUT
 00123 LOGICAL QPHY
 00124 LOGICAL QSHF
 00125 LOGICAL SN2FLG
 00126 LOGICAL QRSW
 00127 LOGICAL QRSH

C
 00128 LOGICAL LQS
 00129 LOGICAL LQU
 00130 LOGICAL LTMIN
 00131 LOGICAL LTMAX
 00132 LOGICAL LPREACC
 00133 LOGICAL LPRECON
 00134 LOGICAL LHFLUX
 00135 LOGICAL LEFLUX
 00136 LOGICAL LFUSION
 00137 LOGICAL LRADSWG
 00138 LOGICAL LRADLWG
 00139 LOGICAL LICLOUD

C
 00140 LOGICAL LOMEGA
 00141 LOGICAL LDIABAT
 00142 LOGICAL LRADSW

C
 00143 EQUIVALENCE (LC0,LC(1))
 00144 LOGICAL LC0, LC(200)

C
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 C
 REAL MODEL PARAMETERS SAVED ON HISTORY RECORD
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00145 COMMON /RCNTRL/ RC0
 00146 COMMON /RCNTRL/ APHEL
 00147 COMMON /RCNTRL/ BETA
 00148 COMMON /RCNTRL/ COSD
 00149 COMMON /RCNTRL/ CP
 00150 COMMON /RCNTRL/ DAYSPY
 00151 COMMON /RCNTRL/ DEC
 00152 COMMON /RCNTRL/ DECMAX
 00153 COMMON /RCNTRL/ DIST
 00154 COMMON /RCNTRL/ DLAT
 00155 COMMON /RCNTRL/ DLON
 00156 COMMON /RCNTRL/ DT
 00157 COMMON /RCNTRL/ EOCN
 00158 COMMON /RCNTRL/ GNU1
 00159 COMMON /RCNTRL/ GNU2
 00160 COMMON /RCNTRL/ GRAV
 00161 COMMON /RCNTRL/ OMEGA2
 00162 COMMON /RCNTRL/ PI

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00163	COMMON /RCNTRL/ PI180	SCNTRL 185
00164	COMMON /RCNTRL/ PI2	SCNTRL 186
00165	COMMON /RCNTRL/ PSTD	SCNTRL 187
00166	COMMON /RCNTRL/ PIMEAN	SCNTRL 188
00167	COMMON /RCNTRL/ PSMAX	SCNTRL 189
00168	COMMON /RCNTRL/ PSMIN	SCNTRL 190
00169	COMMON /RCNTRL/ PTOP	SCNTRL 191
00170	COMMON /RCNTRL/ RADE	SCNTRL 192
00171	COMMON /RCNTRL/ RGAS	SCNTRL 193
00172	COMMON /RCNTRL/ ROCP	SCNTRL 194
00173	COMMON /RCNTRL/ RSDIST	SCNTRL 195
00174	COMMON /RCNTRL/ SDAY	SCNTRL 196
00175	COMMON /RCNTRL/ SEASON	SCNTRL 197
00176	COMMON /RCNTRL/ SIGE (25)	SCNTRL 198
00177	COMMON /RCNTRL/ SIND	SCNTRL 199
00178	COMMON /RCNTRL/ SOLS	SCNTRL 200
00179	COMMON /RCNTRL/ TSTD	SCNTRL 201
00180	COMMON /RCNTRL/ PLEVS (25)	SCNTRL 202
00181	COMMON /RCNTRL/ HEATW	SCNTRL 203
00182	COMMON /RCNTRL/ HEATI	SCNTRL 204
00183	COMMON /RCNTRL/ EPS	SCNTRL 205
00184	COMMON /RCNTRL/ EPSFAC	SCNTRL 206
00185	COMMON /RCNTRL/ CALTOJ	SCNTRL 207
00186	COMMON /RCNTRL/ PZERO	SCNTRL 208
00187	C EQUIVALENCE (RCO, RC(1))	SCNTRL 209
00188	REAL RCO, RC(200)	SCNTRL 210
	C	SCNTRL 211
	C INTEGER MODEL CONSTANTS	SCNTRL 212
	C =====	SCNTRL 213
00189	COMMON /IDPARM/ IJUMP (46)	SCNTRL 214
00190	COMMON /IDPARM/ IDSP02	SCNTRL 215
00191	COMMON /IDPARM/ INDEX (72)	SCNTRL 216
00192	COMMON /IDPARM/ IROD	SCNTRL 217
00193	COMMON /IDPARM/ JC (46)	SCNTRL 218
00194	COMMON /IDPARM/ JE (2)	SCNTRL 219
00195	COMMON /IDPARM/ JP (2,2)	SCNTRL 220
00196	COMMON /IDPARM/ KSTEP	SCNTRL 221
00197	COMMON /IDPARM/ MJ (46)	SCNTRL 222
00198	COMMON /IDPARM/ NHMS1	SCNTRL 223
00199	COMMON /IDPARM/ NYMD1	SCNTRL 224
	C	SCNTRL 225
	C LOGICAL MODEL CONSTANTS	SCNTRL 226
	C =====	SCNTRL 227
00200	COMMON /LDPARM/ FILTER (46)	SCNTRL 228
00201	COMMON /LDPARM/ ITAPE	SCNTRL 229
00202	COMMON /LDPARM/ START	SCNTRL 230
	C	SCNTRL 231
00203	LOGICAL FILTER	SCNTRL 232
00204	LOGICAL ITAPE	SCNTRL 233
00205	LOGICAL START	SCNTRL 234
	C	SCNTRL 235
	C REAL MODEL CONSTANTS	SCNTRL 236
	C =====	SCNTRL 237
00206	COMMON /RDPARM/ ADLDP	SCNTRL 238
00207	COMMON /RDPARM/ CON1	SCNTRL 239
00208	COMMON /RDPARM/ CON1DT	SCNTRL 240
00209	COMMON /RDPARM/ CON2	SCNTRL 241
00210	COMMON /RDPARM/ CON2DT	SCNTRL 242
00211	COMMON /RDPARM/ CON3	SCNTRL 243
00212	COMMON /RDPARM/ CON3DT	SCNTRL 244
00213	COMMON /RDPARM/ CON4	SCNTRL 245
00214	COMMON /RDPARM/ CON4DT	SCNTRL 246
00215	COMMON /RDPARM/ CON5	SCNTRL 247
00216	COMMON /RDPARM/ COSL (46)	SCNTRL 248
00217	COMMON /RDPARM/ COSLON (72)	SCNTRL 249
00218	COMMON /RDPARM/ CPD2	SCNTRL 250
00219	COMMON /RDPARM/ DXP (46)	SCNTRL 251
00220	COMMON /RDPARM/ DXYP (46)	SCNTRL 252
00221	COMMON /RDPARM/ DYP (46)	SCNTRL 253
00222	COMMON /RDPARM/ FCORLS (46)	SCNTRL 254
		SCNTRL 255

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00223 COMMON /RDPARM/ F1DT
 00224 COMMON /RDPARM/ F2DT
 00225 COMMON /RDPARM/ H1DT
 00226 COMMON /RDPARM/ H2DT
 00227 COMMON /RDPARM/ PKSTD
 00228 COMMON /RDPARM/ PKTOP
 00229 COMMON /RDPARM/ RLAT (46)
 00230 COMMON /RDPARM/ RLATD (46)
 00231 COMMON /RDPARM/ ROCPDT
 00232 COMMON /RDPARM/ ROCPPI
 00233 COMMON /RDPARM/ SGNP (2)
 00234 COMMON /RDPARM/ SINL (46)
 00235 COMMON /RDPARM/ SINLON (72)
 00236 COMMON /RDPARM/ THSTD
 00237 COMMON /RDPARM/ THSTD2
 00238 COMMON /RDPARM/ WSAVE (159)
 00239 COMMON /RDPARM/ DSIG (9)
 00240 COMMON /RDPARM/ SIG (9)

C
 C * * *
 C GLOBAL MODEL SURFACE FIELDS

00241 COMMON /QANDQT/ QS(72,19,46)

C
 00242 DIMENSION PHIS(1368,1)
 00243 DIMENSION SMTH(1368,23)
 00244 DIMENSION ALBEDO(1368,1)
 00245 DIMENSION GT(1368,1)
 00246 DIMENSION GW(1368,1)
 00247 DIMENSION TS(1368,1)
 00248 DIMENSION SHS(1368,1)
 00249 DIMENSION P(72,19,1)
 00250 DIMENSION TMIN(1368,1)
 00251 DIMENSION TMAX(1368,1)
 00252 DIMENSION PREACC(1368,1)
 00253 DIMENSION PRECON(1368,1)
 00254 DIMENSION HFLUX(1368,1)
 00255 DIMENSION EFLUX(1368,1)
 00256 DIMENSION FUSION(1368,1)
 00257 DIMENSION RADSWG(1368,1)
 00258 DIMENSION RADLWG(1368,1)
 00259 DIMENSION ICLOUD(1368,1)

C
 00260 EQUIVALENCE (QS(1,1,1),PHIS(1,1))
 00261 EQUIVALENCE (QS(1,2,1),SMTH(1,1))
 00262 EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))
 00263 EQUIVALENCE (QS(1,4,1),GT(1,1))
 00264 EQUIVALENCE (QS(1,5,1),GW(1,1))
 00265 EQUIVALENCE (QS(1,6,1),TS(1,1))
 00266 EQUIVALENCE (QS(1,7,1),SHS(1,1))
 00267 EQUIVALENCE (QS(1,8,1),P(1,1,1))
 00268 EQUIVALENCE (QS(1,10,1),TMIN(1,1))
 00269 EQUIVALENCE (QS(1,11,1),TMAX(1,1))
 00270 EQUIVALENCE (QS(1,12,1),PREACC(1,1))
 00271 EQUIVALENCE (QS(1,13,1),PRECON(1,1))
 00272 EQUIVALENCE (QS(1,14,1),HFLUX(1,1))
 00273 EQUIVALENCE (QS(1,15,1),EFLUX(1,1))
 00274 EQUIVALENCE (QS(1,16,1),FUSION(1,1))
 00275 EQUIVALENCE (QS(1,17,1),RADSWG(1,1))
 00276 EQUIVALENCE (QS(1,18,1),RADLWG(1,1))
 00277 EQUIVALENCE (QS(1,19,1),ICLOUD(1,1))

C * * *
 C GLOBAL MODEL UPPER-AIR FIELDS

00278 COMMON /QANDQT/ QU(72,9,14,46)

C
 00279 DIMENSION U(72,9,14,1)
 00280 DIMENSION V(72,9,14,1)
 00281 DIMENSION T(72,9,14,1)
 00282 DIMENSION SH(72,9,14,1)
 00283 DIMENSION PHI(72,9,14,1)
 00284 DIMENSION OMEGA(72,126,1)
 00285 DIMENSION DIABAT(72,126,1)

SCNTRL 256
 SCNTRL 257
 SCNTRL 258
 SCNTRL 259
 SCNTRL 260
 SCNTRL 261
 SCNTRL 262
 SCNTRL 263
 SCNTRL 264
 SCNTRL 265
 SCNTRL 266
 SCNTRL 267
 SCNTRL 268
 SCNTRL 269
 SCNTRL 270
 SCNTRL 271
 SCNTRL 272
 SCNTRL 273
 SCNTRL 274
 SQANDQT 2
 SQANDQT 3
 SQANDQT 4
 SQANDQT 5
 SQANDQT 6
 SQANDQT 7
 SQANDQT 8
 SQANDQT 9
 SQANDQT 10
 SQANDQT 11
 SQANDQT 12
 SQANDQT 13
 SQANDQT 14
 SQANDQT 15
 SQANDQT 16
 SQANDQT 17
 SQANDQT 18
 SQANDQT 19
 SQANDQT 20
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 SQANDQT 22
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 SQANDQT 40
 SQANDQT 41
 SQANDQT 42
 SQANDQT 43
 SQANDQT 44
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 SQANDQT 47
 SQANDQT 48
 SQANDQT 49
 SQANDQT 50
 SQANDQT 51
 SQANDQT 52
 SQANDQT 53

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SCALEQ 5

STATEMENT LABEL MAP
--LABEL--DEFINED--REFERENCES

10 313 308

VARIABLE MAP

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

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SCALEQ 7

IC0	ICNTRL	INTEGER	SIMPLE	25	90	91								
ICLOUD	QANDQT	INTEGER	ARRAY	259	277									
ICNTRL		INTEGER	UNKNOWN	25	26	27	28	29	30	31	32	33	34	35
				36	37	38	39	40	41	42	43	44	45	46
				47	48	49	50	51	52	53	54	55	56	57
				58	59	60	61	62	63	64	65	66	67	68
				69	70	71	72	73	74	75	76			
ICSP53	ICNTRL	INTEGER	SIMPLE	66										
ICSP55	ICNTRL	INTEGER	SIMPLE	68										
IDIABAT	ICNTRL	INTEGER	UNKNOWN	88										
IDPARM		INTEGER	UNKNOWN	189	190	191	192	193	194	195	196	197	198	199
IDSP02	IDPARM	INTEGER	SIMPLE	190										
IEFLUX	ICNTRL	INTEGER	UNKNOWN	82										
IFUSION	ICNTRL	INTEGER	UNKNOWN	83										
IHFLUX	ICNTRL	INTEGER	UNKNOWN	81										
IICLOUD	ICNTRL	INTEGER	UNKNOWN	86										
IJUMP	IDPARM	INTEGER	ARRAY	189										
IM	ICNTRL	INTEGER	SIMPLE	26	316									
IMD2	ICNTRL	INTEGER	SIMPLE	27										
IMD2P1	ICNTRL	INTEGER	SIMPLE	28										
INDEX	IDPARM	INTEGER	ARRAY	191										
IOMEGA	ICNTRL	INTEGER	UNKNOWN	87										
IPREACC	ICNTRL	INTEGER	UNKNOWN	79										
IPRECON	ICNTRL	INTEGER	UNKNOWN	80										
IQS	ICNTRL	INTEGER	ARRAY	75	77	78	79	80	81	82	83	84	85	86
IQU	ICNTRL	INTEGER	ARRAY	76	87	88	89							
IRADLWG	ICNTRL	INTEGER	UNKNOWN	85										
IRADSW	ICNTRL	INTEGER	UNKNOWN	89										
IRADSWG	ICNTRL	INTEGER	UNKNOWN	84										
IROD	IDPARM	INTEGER	SIMPLE	182										
ITAPE	IDPARM	LOGICAL	SIMPLE	201	204									
ITMAX	ICNTRL	INTEGER	UNKNOWN	78										
ITMIN	ICNTRL	INTEGER	UNKNOWN	77										
J		INTEGER	SIMPLE	1	304	317	317	320	320	321	321	322	322	323
JC	IDPARM	INTEGER	ARRAY	323										
JE	IDPARM	INTEGER	ARRAY	193										
JIC	ICNTRL	CHAR*8	SIMPLE	194	18									
JM	ICNTRL	INTEGER	SIMPLE	5										
JMD2	ICNTRL	INTEGER	SIMPLE	30										
JMT2	ICNTRL	INTEGER	SIMPLE	31										
JNP	ICNTRL	INTEGER	SIMPLE	32										
JO4	ICNTRL	INTEGER	SIMPLE	33										
				34										
JOB	ICNTRL	INTEGER	SIMPLE	35										
JOB	ICNTRL	CHAR*8	SIMPLE	6	19									
JP	IDPARM	INTEGER	ARRAY	195										
JSP	ICNTRL	INTEGER	SIMPLE	36										
KLIAB	ICNTRL	INTEGER	SIMPLE	37										
KLIW	ICNTRL	INTEGER	SIMPLE	38										
KLISS	ICNTRL	INTEGER	SIMPLE	39										
KS	ICNTRL	INTEGER	SIMPLE	40										
KSC		INTEGER	SIMPLE	1	307	318								
KSTEP	IDPARM	INTEGER	SIMPLE	196										
KU	ICNTRL	INTEGER	SIMPLE	41										
L		INTEGER	SIMPLE	308/C	309	309	310	310	311	311	312	312	319/C	320
				320	321	321	322	322	323	323				
LC	LCNTRL	LOGICAL	ARRAY	143	144									
LC0	LCNTRL	LOGICAL	SIMPLE	92	143	144								
LCNTRL		INTEGER	UNKNOWN	92	93	94	95	96	97	98	99	100	101	102
				103	104									
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	116	141									
LDPARM		INTEGER	UNKNOWN	200	201	202								
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	110	135									
LFUSION	LCNTRL	LOGICAL	UNKNOWN	111	136									
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	109	134									
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	139									
LOGBR	ICNTRL	INTEGER	SIMPLE	42										
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	115	140									
LPREACC	LCNTRL	LOGICAL	UNKNOWN	107	132									
LPRECON	LCNTRL	LOGICAL	UNKNOWN	108	133									

LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114
LQ	LCNTRL	LOGICAL	ARRAY	103										
LQ	LCNTRL	LOGICAL	ARRAY	128										
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	104	115		117	129						
LRADSW	LCNTRL	LOGICAL	UNKNOWN	113										
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	117										
LTMAX	LCNTRL	LOGICAL	UNKNOWN	112										
LTMIN	LCNTRL	LOGICAL	UNKNOWN	106										
M		INTEGER	SIMPLE	105										
MATIN	ICNTRL	INTEGER	SIMPLE	304/S	305	306	309	309	310	310	311	311	312	312
MATSNX	ICNTRL	INTEGER	SIMPLE	43										
MATSUN	ICNTRL	INTEGER	SIMPLE	44										
MJ	IDPARM	INTEGER	ARRAY	45										
MLF	ICNTRL	INTEGER	ARRAY	197	304									
MROD	ICNTRL	INTEGER	SIMPLE	46										
MSM	ICNTRL	INTEGER	SIMPLE	47										
N		INTEGER	SIMPLE	49										
NB	ICNTRL	INTEGER	SIMPLE	1	306	309	309	310	310	311	311	312	312	317
ND	ICNTRL	INTEGER	SIMPLE	320	320	321	321	322	322	323	323			
NDALT	ICNTRL	INTEGER	SIMPLE	50										
NDAY	ICNTRL	INTEGER	SIMPLE	51										
NDHOG	ICNTRL	INTEGER	SIMPLE	52										
NDOUT	ICNTRL	INTEGER	SIMPLE	53										
NDPHY	ICNTRL	INTEGER	SIMPLE	74										
NDRSW	ICNTRL	INTEGER	SIMPLE	54										
NDSHF	ICNTRL	INTEGER	SIMPLE	55										
NDT	ICNTRL	INTEGER	SIMPLE	29										
NHMS	ICNTRL	INTEGER	SIMPLE	56										
NHMSO	ICNTRL	INTEGER	SIMPLE	57										
NHMS1	IDPARM	INTEGER	SIMPLE	58										
NHMS2	ICNTRL	INTEGER	SIMPLE	60										
NKRSH	ICNTRL	INTEGER	SIMPLE	198										
NLAY	ICNTRL	INTEGER	SIMPLE	59										
NLAYM1	ICNTRL	INTEGER	SIMPLE	48										
NLAYP1	ICNTRL	INTEGER	SIMPLE	61	308	319								
NMLEV	ICNTRL	INTEGER	SIMPLE	62										
NSDAY	ICNTRL	INTEGER	SIMPLE	63										
NSEQ	ICNTRL	INTEGER	SIMPLE	73										
NSTEP	ICNTRL	INTEGER	SIMPLE	64										
NYMD	ICNTRL	INTEGER	SIMPLE	65										
NYMD0	ICNTRL	INTEGER	SIMPLE	67										
NYMD1	IDPARM	INTEGER	SIMPLE	69										
NYMDE	ICNTRL	INTEGER	SIMPLE	71										
NZINIT	ICNTRL	INTEGER	SIMPLE	199										
OMEGA	QANDQT	REAL	ARRAY	70										
OMEGA2	RCNTRL	REAL	SIMPLE	72										
P	QANDQT	REAL	ARRAY	284	293									
PHI	QANDQT	REAL	ARRAY	161										
PHIP	QPOLES	REAL	ARRAY	249	267	317								
PHIS	QANDQT	REAL	ARRAY	283	292									
PI	RCNTRL	REAL	SIMPLE	302										
PI180	RCNTRL	REAL	SIMPLE	242	260									
PI2	RCNTRL	REAL	SIMPLE	162										
PIMEAN	RCNTRL	REAL	SIMPLE	163										
PKSTD	RDPARM	REAL	SIMPLE	164										
PKTOP	RDPARM	REAL	SIMPLE	166										
PLEVS	RCNTRL	REAL	ARRAY	227										
PP	QPOLES	REAL	ARRAY	228										
PREAOC	QANDQT	REAL	ARRAY	180										
PRECON	QANDQT	REAL	ARRAY	297	306									
PSMAX	RCNTRL	REAL	SIMPLE	252	270									
PSMIN	RCNTRL	REAL	SIMPLE	253	271									
PSTD	RCNTRL	REAL	SIMPLE	167										
PTOP	RCNTRL	REAL	SIMPLE	168										
PZERO	RCNTRL	REAL	SIMPLE	165										
QALT	LCNTRL	LOGICAL	SIMPLE	169										
QANDQT		REAL	UNKNOWN	186										
QBEG	LCNTRL	LOGICAL	SIMPLE	93	118									
QDAY	LCNTRL	LOGICAL	SIMPLE	241	278									
				94	119									
				95	120									

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QEND	LCNTRL	LOGICAL	SIMPLE	96	121														
QOUT	LCNTRL	LOGICAL	SIMPLE	97	122														
QPHY	LCNTRL	LOGICAL	SIMPLE	98	123														
QPOLES		REAL	UNKNOWN	297	298	299	300	301	302										
QRSH	LCNTRL	LOGICAL	SIMPLE	102	127														
QRSW	LCNTRL	LOGICAL	SIMPLE	101	126														
QS	QANDQT	REAL	ARRAY	241	260	261	262	263	264	265	266	267	268	269					
				270	271	272	273	274	275	276	277								
QSHF	LCNTRL	LOGICAL	SIMPLE	99	124														
QU	QANDQT	REAL	ARRAY	278	288	289	290	291	292	293	294	295	296						
RADE	RCNTRL	REAL	SIMPLE	170															
RADLW	QANDQT	REAL	ARRAY	287	296														
RADLWG	QANDQT	REAL	ARRAY	258	276														
RADSW	QANDQT	REAL	ARRAY	286	295														
RADSWG	QANDQT	REAL	ARRAY	257	275														
RC	RCNTRL	REAL	ARRAY	187	188														
RCO	RCNTRL	REAL	SIMPLE	145	187	188													
RCNTRL		REAL	UNKNOWN	145	146	147	148	149	150	151	152	153	154	155					
				156	157	158	159	160	161	162	163	164	165	166					
				167	168	169	170	171	172	173	174	175	176	177					
				178	179	180	181	182	183	184	185	186							
RDPARM		REAL	UNKNOWN	206	207	208	209	210	211	212	213	214	215	216					
				217	218	219	220	221	222	223	224	225	226	227					
				228	229	230	231	232	233	234	235	236	237	238					
				239	240														
RGAS	RCNTRL	REAL	SIMPLE	171															
RLAT	RDPARM	REAL	ARRAY	229															
RLATD	RDPARM	REAL	ARRAY	230															
ROCP	RCNTRL	REAL	SIMPLE	172															
ROCPDT	RDPARM	REAL	SIMPLE	231															
ROCPP1	RDPARM	REAL	SIMPLE	232															
RSDIST	RCNTRL	REAL	SIMPLE	173															
SCALE		REAL	SIMPLE	306/S	307/S	307	309	310	311	312	317/S	318/S	318	320					
				321	322	323													
SCALEQ			SUBROUTINE	1															
SDAY	RCNTRL	REAL	SIMPLE	174															
SEASON	RCNTRL	REAL	SIMPLE	175															
SGNP	RDPARM	REAL	ARRAY	233															
SH	QANDQT	REAL	ARRAY	282	291	323/S	323												
SHP	QPOLES	REAL	ARRAY	301	312/S	312													
SHS	QANDQT	REAL	ARRAY	248	266														
SIG	RDPARM	REAL	ARRAY	240															
SIGE	RCNTRL	REAL	ARRAY	176															
SIND	RCNTRL	REAL	SIMPLE	177															
SINL	RDPARM	REAL	ARRAY	234															
SINLON	RDPARM	REAL	ARRAY	235															
SMTH	QANDQT	REAL	ARRAY	243	261														
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125														
SOLS	RCNTRL	REAL	SIMPLE	178															
START	LDPARM	LOGICAL	SIMPLE	202	205														
T	QANDQT	REAL	ARRAY	281	290	322/S	322												
THSTD	RDPARM	REAL	SIMPLE	236															
THSTD2	RDPARM	REAL	SIMPLE	237															
TMAX	QANDQT	REAL	ARRAY	251	269														
TMIN	QANDQT	REAL	ARRAY	250	268														
TP	QPOLES	REAL	ARRAY	300	311/S	311													
TS	QANDQT	REAL	ARRAY	247	265														
TSTD	RCNTRL	REAL	SIMPLE	179															
U	QANDQT	REAL	ARRAY	279	288	320/S	320												
UP	QPOLES	REAL	ARRAY	298	309/S	309													
V	QANDQT	REAL	ARRAY	280	289	321/S	321												
VER	CCNTRL	CHAR*B	SIMPLE	10	23														
VP	QPOLES	REAL	ARRAY	299	310/S	310													
WSAVE	RDPARM	REAL	ARRAY	238															
XLABEL	CCNTRL	CHAR*B	ARRAY	11	24														

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00001 SUBROUTINE SHCORN (J) SSHCORN 2
C----- SSHCORN 3
C PURPOSE SSHCORN 4
CORRECT BASE SPECIFIC HUMIDITY FIELD FOR NEGATIVE VALUES. SSHCORN 5
CALLED BY COMPO ONLY SSHCORN 6
C USAGE SSHCORN 7
SSHCORN 8
C ARGUMENTS DESCRIPTION SSHCORN 9
J LATITUDE BAND NUMBER SSHCORN 10
SSHCORN 11
C SUBPROGRAMS NEEDED SSHCORN 12
NAME DESCRIPTION SSHCORN 13
NONE SSHCORN 14
SSHCORN 15
C RECORD OF MODIFICATIONS SSHCORN 16
BASED ON OLD VERSION 8. SSHCORN 17
SSHCORN 18
C ?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS? SSHCORN 19
05/17/83 RAMESH THIS PART AND COMMENTS SSHCORN 20
SSHCORN 21
C REMARKS: SSHCORN 22
( 1 ) ?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.? SSHCORN 23
SSHCORN 24
C----- SSHCORN 25
C M / A - C O M S I G M A D A T A I N C N A S A - G S F C SSHCORN 26
C----- SSHCORN 27
SSHCORN 28
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD SCNTRL 2
C----- SCNTRL 3
00002 COMMON /CCNTRL/ CC0 SCNTRL 4
00003 COMMON /CCNTRL/ ADATE SCNTRL 5
00004 COMMON /CCNTRL/ ATIME SCNTRL 6
00005 COMMON /CCNTRL/ JIC SCNTRL 7
00006 COMMON /CCNTRL/ JOB SCNTRL 8
00007 COMMON /CCNTRL/ CCSP06 SCNTRL 9
00008 COMMON /CCNTRL/ CCSP07 SCNTRL 10
00009 COMMON /CCNTRL/ CCSP08 SCNTRL 11
00010 COMMON /CCNTRL/ VER SCNTRL 12
00011 COMMON /CCNTRL/ XLABEL (10) SCNTRL 13
00012 COMMON /CCNTRL/ CQS (30) SCNTRL 14
00013 COMMON /CCNTRL/ CQU (10) SCNTRL 15
C SCNTRL 16
00014 EQUIVALENCE (CC0,CC(11)) SCNTRL 17
00015 CHARACTER*8 CC0, CC(200) SCNTRL 18
00016 CHARACTER*8 ADATE SCNTRL 19
00017 CHARACTER*8 ATIME SCNTRL 20
00018 CHARACTER*8 JIC SCNTRL 21
00019 CHARACTER*8 JOB SCNTRL 22
00020 CHARACTER*8 CCSP06 SCNTRL 23
00021 CHARACTER*8 CCSP07 SCNTRL 24
00022 CHARACTER*8 CCSP08 SCNTRL 25
00023 CHARACTER*8 VER SCNTRL 26
00024 CHARACTER*8 XLABEL SCNTRL 27
C SCNTRL 28
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD SCNTRL 29
C----- SCNTRL 30
00025 COMMON /ICNTRL/ ICO SCNTRL 31
00026 COMMON /ICNTRL/ IM SCNTRL 32
00027 COMMON /ICNTRL/ IMD2 SCNTRL 33
00028 COMMON /ICNTRL/ IMD2P1 SCNTRL 34
00029 COMMON /ICNTRL/ NDRSW SCNTRL 35
00030 COMMON /ICNTRL/ JM SCNTRL 36
00031 COMMON /ICNTRL/ JMD2 SCNTRL 37
00032 COMMON /ICNTRL/ JMT2 SCNTRL 38
00033 COMMON /ICNTRL/ JNP SCNTRL 39
00034 COMMON /ICNTRL/ JO4 SCNTRL 40
00035 COMMON /ICNTRL/ JO8 SCNTRL 41
00036 COMMON /ICNTRL/ JSP SCNTRL 42
00037 COMMON /ICNTRL/ KLIALB SCNTRL 43
00038 COMMON /ICNTRL/ KLIGW SCNTRL 44
SSHCORN 45
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00039	COMMON /ICNTRL/ KLISST	SCNTRL 46
00040	COMMON /ICNTRL/ KS	SCNTRL 47
00041	COMMON /ICNTRL/ KU	SCNTRL 48
00042	COMMON /ICNTRL/ LOGBR	SCNTRL 49
00043	COMMON /ICNTRL/ MATIN	SCNTRL 50
00044	COMMON /ICNTRL/ MATSNX	SCNTRL 51
00045	COMMON /ICNTRL/ MATSUN	SCNTRL 52
00046	COMMON /ICNTRL/ MLF (12)	SCNTRL 53
00047	COMMON /ICNTRL/ MROD	SCNTRL 54
00048	COMMON /ICNTRL/ NKRSH	SCNTRL 55
00049	COMMON /ICNTRL/ MSM	SCNTRL 56
00050	COMMON /ICNTRL/ NB	SCNTRL 57
00051	COMMON /ICNTRL/ ND	SCNTRL 58
00052	COMMON /ICNTRL/ NDALT	SCNTRL 59
00053	COMMON /ICNTRL/ NDAY	SCNTRL 60
00054	COMMON /ICNTRL/ NDOUT	SCNTRL 61
00055	COMMON /ICNTRL/ NDPHY	SCNTRL 62
00056	COMMON /ICNTRL/ NDSHF	SCNTRL 63
00057	COMMON /ICNTRL/ NDT	SCNTRL 64
00058	COMMON /ICNTRL/ NHMS	SCNTRL 65
00059	COMMON /ICNTRL/ NHMSE	SCNTRL 66
00060	COMMON /ICNTRL/ NHMSO	SCNTRL 67
00061	COMMON /ICNTRL/ NLAY	SCNTRL 68
00062	COMMON /ICNTRL/ NLAYM1	SCNTRL 69
00063	COMMON /ICNTRL/ NLAYP1	SCNTRL 70
00064	COMMON /ICNTRL/ NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
00077	C EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 84
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 85
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 86
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 87
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 88
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 89
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 90
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 91
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 92
00086	EQUIVALENCE (IICLOUD ,IQS(10))	SCNTRL 93
00087	C EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 94
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 95
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 96
00090	C EQUIVALENCE (ICO,IC(1))	SCNTRL 97
00091	C INTEGER ICO, IC(200)	SCNTRL 98
	C LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL 99
	C =====	SCNTRL 100
00092	COMMON /LCNTRL/ LCO	SCNTRL 101
00093	COMMON /LCNTRL/ QALT	SCNTRL 102
00094	COMMON /LCNTRL/ QBEG	SCNTRL 103
00095	COMMON /LCNTRL/ QDAY	SCNTRL 104
00096	COMMON /LCNTRL/ QEND	SCNTRL 105
00097	COMMON /LCNTRL/ QOUT	SCNTRL 106
00098	COMMON /LCNTRL/ QPHY	SCNTRL 107
00099	COMMON /LCNTRL/ QSHF	SCNTRL 108
00100	COMMON /LCNTRL/ SN2FLG	SCNTRL 109
00101	COMMON /LCNTRL/ QRSW	SCNTRL 110
00102	COMMON /LCNTRL/ QRSH	SCNTRL 111
00103	COMMON /LCNTRL/ LQS(30)	SCNTRL 112
		SCNTRL 113
		SCNTRL 114
		SCNTRL 115
		SCNTRL 116

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00104      COMMON /LCNTRL/ LQU(10)
00105      C      EQUIVALENCE      (LTMIN ,LQS( 1))
00106      EQUIVALENCE      (LTMAX ,LQS( 2))
00107      EQUIVALENCE      (LPREACC ,LQS( 3))
00108      EQUIVALENCE      (LPRECON ,LQS( 4))
00109      EQUIVALENCE      (LHFLUX ,LQS( 5))
00110      EQUIVALENCE      (LEFLUX ,LQS( 6))
00111      EQUIVALENCE      (LFUSION ,LQS( 7))
00112      EQUIVALENCE      (LRADSWG ,LQS( 8))
00113      EQUIVALENCE      (LRADLWG ,LQS( 9))
00114      EQUIVALENCE      (LICLOUD ,LQS(10))
00115      C      EQUIVALENCE      (LOMEGA ,LQU( 1))
00116      EQUIVALENCE      (LDIABAT ,LQU( 2))
00117      EQUIVALENCE      (LRADSW ,LQU( 3))
00118      C      LOGICAL          QALT
00119      LOGICAL          QBEG
00120      LOGICAL          QDAY
00121      LOGICAL          QEND
00122      LOGICAL          QOUT
00123      LOGICAL          QPHY
00124      LOGICAL          QSHF
00125      LOGICAL          SN2FLG
00126      LOGICAL          QRSW
00127      LOGICAL          QRSF
00128      C      LOGICAL          LQS
00129      LOGICAL          LQU
00130      LOGICAL          LTMIN
00131      LOGICAL          LTMAX
00132      LOGICAL          LPREACC
00133      LOGICAL          LPRECON
00134      LOGICAL          LHFLUX
00135      LOGICAL          LEFLUX
00136      LOGICAL          LFUSION
00137      LOGICAL          LRADSWG
00138      LOGICAL          LRADLWG
00139      LOGICAL          LICLOUD
00140      C      LOGICAL          LOMEGA
00141      LOGICAL          LDIABAT
00142      LOGICAL          LRADSW
00143      C      EQUIVALENCE      (LC0,LC(1))
00144      LOGICAL          LC0, LC(200)
00145      C      REAL MODEL PARAMETERS SAVED ON HISTORY RECORD
00146      C      =====
00145      COMMON /RCNTRL/ RCO
00146      COMMON /RCNTRL/ APHEL
00147      COMMON /RCNTRL/ BETA
00148      COMMON /RCNTRL/ COSD
00149      COMMON /RCNTRL/ CP
00150      COMMON /RCNTRL/ DAYSPY
00151      COMMON /RCNTRL/ DEC
00152      COMMON /RCNTRL/ DECMAX
00153      COMMON /RCNTRL/ DIST
00154      COMMON /RCNTRL/ DLAT
00155      COMMON /RCNTRL/ DLON
00156      COMMON /RCNTRL/ DT
00157      COMMON /RCNTRL/ ECCN
00158      COMMON /RCNTRL/ GNU1
00159      COMMON /RCNTRL/ GNU2
00160      COMMON /RCNTRL/ GRAV
00161      COMMON /RCNTRL/ OMEGA2
00162      COMMON /RCNTRL/ PI
00163      COMMON /RCNTRL/ PI180
00164      COMMON /RCNTRL/ PI2
00165      COMMON /RCNTRL/ PSTD

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SCNTRL 117
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00166	COMMON /RCNTRL/ PIMEAN	SCNTRL 188
00167	COMMON /RCNTRL/ PSMAX	SCNTRL 189
00168	COMMON /RCNTRL/ PSMIN	SCNTRL 190
00169	COMMON /RCNTRL/ PTOP	SCNTRL 191
00170	COMMON /RCNTRL/ RADE	SCNTRL 192
00171	COMMON /RCNTRL/ RGAS	SCNTRL 193
00172	COMMON /RCNTRL/ ROCP	SCNTRL 194
00173	COMMON /RCNTRL/ RSDIST	SCNTRL 195
00174	COMMON /RCNTRL/ SDAY	SCNTRL 196
00175	COMMON /RCNTRL/ SEASON	SCNTRL 197
00176	COMMON /RCNTRL/ SIGE (25)	SCNTRL 198
00177	COMMON /RCNTRL/ SIND	SCNTRL 199
00178	COMMON /RCNTRL/ SOLS	SCNTRL 200
00179	COMMON /RCNTRL/ TSTD	SCNTRL 201
00180	COMMON /RCNTRL/ PLEVS (25)	SCNTRL 202
00181	COMMON /RCNTRL/ HEATW	SCNTRL 203
00182	COMMON /RCNTRL/ HEATI	SCNTRL 204
00183	COMMON /RCNTRL/ EPS	SCNTRL 205
00184	COMMON /RCNTRL/ EPSFAC	SCNTRL 206
00185	COMMON /RCNTRL/ CALTOJ	SCNTRL 207
00186	COMMON /RCNTRL/ PZERO	SCNTRL 208
00187	C EQUIVALENCE (RC0,RC(1))	SCNTRL 209
00188	REAL RC0, RC(200)	SCNTRL 210
	C	SCNTRL 211
	C INTEGER MODEL CONSTANTS	SCNTRL 212
	C =====	SCNTRL 213
00189	COMMON /IDPARM/ IJUMP (46)	SCNTRL 214
00190	COMMON /IDPARM/ IDSP02	SCNTRL 215
00191	COMMON /IDPARM/ INDEX (72)	SCNTRL 216
00192	COMMON /IDPARM/ IROD	SCNTRL 217
00193	COMMON /IDPARM/ JC (46)	SCNTRL 218
00194	COMMON /IDPARM/ JE (2)	SCNTRL 219
00195	COMMON /IDPARM/ JP (2.2)	SCNTRL 220
00196	COMMON /IDPARM/ KSTEP	SCNTRL 221
00197	COMMON /IDPARM/ MJ (46)	SCNTRL 222
00198	COMMON /IDPARM/ NHMS1	SCNTRL 223
00199	COMMON /IDPARM/ NYMD1	SCNTRL 224
	C	SCNTRL 225
	C LOGICAL MODEL CONSTANTS	SCNTRL 226
	C =====	SCNTRL 227
00200	COMMON /LDPARM/ FILTER (46)	SCNTRL 228
00201	COMMON /LDPARM/ ITAPE	SCNTRL 229
00202	COMMON /LDPARM/ START	SCNTRL 230
	C	SCNTRL 231
00203	LOGICAL FILTER	SCNTRL 232
00204	LOGICAL ITAPE	SCNTRL 233
00205	LOGICAL START	SCNTRL 234
	C	SCNTRL 235
	C REAL MODEL CONSTANTS	SCNTRL 236
	C =====	SCNTRL 237
00206	COMMON /RDPARM/ ADLDP	SCNTRL 238
00207	COMMON /RDPARM/ CON1	SCNTRL 239
00208	COMMON /RDPARM/ CON1DT	SCNTRL 240
00209	COMMON /RDPARM/ CON2	SCNTRL 241
00210	COMMON /RDPARM/ CON2DT	SCNTRL 242
00211	COMMON /RDPARM/ CON3	SCNTRL 243
00212	COMMON /RDPARM/ CON3DT	SCNTRL 244
00213	COMMON /RDPARM/ CON4	SCNTRL 245
00214	COMMON /RDPARM/ CON4DT	SCNTRL 246
00215	COMMON /RDPARM/ CON5	SCNTRL 247
00216	COMMON /RDPARM/ COSL (46)	SCNTRL 248
00217	COMMON /RDPARM/ COSLON (72)	SCNTRL 249
00218	COMMON /RDPARM/ CPD2	SCNTRL 250
00219	COMMON /RDPARM/ DXP (46)	SCNTRL 251
00220	COMMON /RDPARM/ DXYP (46)	SCNTRL 252
00221	COMMON /RDPARM/ DYP (46)	SCNTRL 253
00222	COMMON /RDPARM/ FCORLS (46)	SCNTRL 254
00223	COMMON /RDPARM/ F1DT	SCNTRL 255
00224	COMMON /RDPARM/ F2DT	SCNTRL 256
00225	COMMON /RDPARM/ H1DT	SCNTRL 257
		SCNTRL 258

00226 COMMON /RDPARM/ H2DT
 00227 COMMON /RDPARM/ PKSTD
 00228 COMMON /RDPARM/ PKTOP
 00229 COMMON /RDPARM/ RLAT (46)
 00230 COMMON /RDPARM/ RLATD (46)
 00231 COMMON /RDPARM/ ROCPOD
 00232 COMMON /RDPARM/ ROCPD1
 00233 COMMON /RDPARM/ SGNP (2)
 00234 COMMON /RDPARM/ SINL (46)
 00235 COMMON /RDPARM/ SINLON (72)
 00236 COMMON /RDPARM/ THSTD
 00237 COMMON /RDPARM/ THSTD2
 00238 COMMON /RDPARM/ WSAVE (159)
 00239 COMMON /RDPARM/ DSIG (9)
 00240 COMMON /RDPARM/ SIG (9)

C
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 00241 GLOBAL MODEL SURFACE FIELDS
 COMMON /QANDQT/ QS(72,19,46)

C
 00242 DIMENSION PHIS(1368,1)
 00243 DIMENSION SMTH(1368,23)
 00244 DIMENSION ALBEDO(1368,1)
 00245 DIMENSION GT(1368,1)
 00246 DIMENSION GW(1368,1)
 00247 DIMENSION TS(1368,1)
 00248 DIMENSION SHS(1368,1)
 00249 DIMENSION P(72,19,1)
 00250 DIMENSION TMIN(1368,1)
 00251 DIMENSION TMAX(1368,1)
 00252 DIMENSION PREACC(1368,1)
 00253 DIMENSION PRECON(1368,1)
 00254 DIMENSION HFLUX(1368,1)
 00255 DIMENSION EFLUX(1368,1)
 00256 DIMENSION FUSION(1368,1)
 00257 DIMENSION RADSWG(1368,1)
 00258 DIMENSION RADLWG(1368,1)
 00259 DIMENSION ICLOUD(1368,1)

C
 00260 EQUIVALENCE (QS(1,1,1),PHIS(1,1))
 00261 EQUIVALENCE (QS(1,2,1),SMTH(1,1))
 00262 EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))
 00263 EQUIVALENCE (QS(1,4,1),GT(1,1))
 00264 EQUIVALENCE (QS(1,5,1),GW(1,1))
 00265 EQUIVALENCE (QS(1,6,1),TS(1,1))
 00266 EQUIVALENCE (QS(1,7,1),SHS(1,1))
 00267 EQUIVALENCE (QS(1,8,1),P(1,1,1))
 00268 EQUIVALENCE (QS(1,10,1),TMIN(1,1))
 00269 EQUIVALENCE (QS(1,11,1),TMAX(1,1))
 00270 EQUIVALENCE (QS(1,12,1),PREACC(1,1))
 00271 EQUIVALENCE (QS(1,13,1),PRECON(1,1))
 00272 EQUIVALENCE (QS(1,14,1),HFLUX(1,1))
 00273 EQUIVALENCE (QS(1,15,1),EFLUX(1,1))
 00274 EQUIVALENCE (QS(1,16,1),FUSION(1,1))
 00275 EQUIVALENCE (QS(1,17,1),RADSWG(1,1))
 00276 EQUIVALENCE (QS(1,18,1),RADLWG(1,1))
 00277 EQUIVALENCE (QS(1,19,1),ICLOUD(1,1))

C
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 00278 GLOBAL MODEL UPPER-AIR FIELDS
 COMMON /QANDQT/ QU(72,9,14,46)

C
 00279 DIMENSION U(72,9,14,1)
 00280 DIMENSION V(72,9,14,1)
 00281 DIMENSION T(72,9,14,1)
 00282 DIMENSION SH(72,9,14,1)
 00283 DIMENSION PHI(72,9,14,1)
 00284 DIMENSION OMEGA(72,126,1)
 00285 DIMENSION DIABAT(72,126,1)
 00286 DIMENSION RADSW(72,126,1)
 00287 DIMENSION RADLW(72,126,1)

SCNTRL 259
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STATEMENT LABEL MAP
--LABEL--DEFINED--REFERENCES

10	311	306	308
10000	303		
20	314	305	
30	321	316	318
40	323	315	

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES	1	2	3	4	5	6	7	8	9	10	11	12
ADATE	CCNTRL	CHAR*8	SIMPLE	3	16											
ADLDP	RDPARM	REAL	SIMPLE	206												
ALBEDO	QANDQT	REAL	ARRAY	244	262											
APHEL	RCNTRL	REAL	SIMPLE	146												
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17											
BETA	RCNTRL	REAL	SIMPLE	147												
CALTOJ	RCNTRL	REAL	SIMPLE	185												
CC	CCNTRL	CHAR*8	ARRAY	14	15											
CCO	CCNTRL	CHAR*8	SIMPLE	2	14		15									
CCNTRL		REAL	UNKNOWN	2	3	4		5		6	7	8	9	10	11	12
CCSP06	CCNTRL	CHAR*8	SIMPLE	13												
CCSP07	CCNTRL	CHAR*8	SIMPLE	7	20											
CCSP08	CCNTRL	CHAR*8	SIMPLE	8	21											
CON1	RDPARM	REAL	SIMPLE	9	22											
CON1DT	RDPARM	REAL	SIMPLE	207												
CON2	RDPARM	REAL	SIMPLE	208												
CON2DT	RDPARM	REAL	SIMPLE	209												
CON3	RDPARM	REAL	SIMPLE	210												
CON3DT	RDPARM	REAL	SIMPLE	211												
CON4	RDPARM	REAL	SIMPLE	212												
CON4DT	RDPARM	REAL	SIMPLE	213												
CON5	RDPARM	REAL	SIMPLE	214												
COSD	RCNTRL	REAL	SIMPLE	215												
COSL	RDPARM	REAL	ARRAY	148												
COSLON	RDPARM	REAL	ARRAY	216												
CP	RCNTRL	REAL	SIMPLE	217												
CPD2	RDPARM	REAL	SIMPLE	149												
COS	CCNTRL	REAL	ARRAY	218												
CQU	CCNTRL	REAL	ARRAY	12												
DAYSPPY	RCNTRL	REAL	SIMPLE	13												
DEC	RCNTRL	REAL	SIMPLE	150												
DECMAX	RCNTRL	REAL	SIMPLE	151												
DIABAT	QANDQT	REAL	ARRAY	152												
DIST	RCNTRL	REAL	SIMPLE	285	294											
DLAT	RCNTRL	REAL	SIMPLE	153												
DLOD	RCNTRL	REAL	SIMPLE	154												
DSIG	RDPARM	REAL	ARRAY	155												
DT	RCNTRL	REAL	SIMPLE	239	309	309		319		319						
DXP	RDPARM	REAL	ARRAY	156												
DXYP	RDPARM	REAL	ARRAY	219												
DYP	RDPARM	REAL	ARRAY	220												
ECCN	RCNTRL	REAL	SIMPLE	221												
EFLUX	QANDQT	REAL	ARRAY	157												
EPS	RCNTRL	REAL	SIMPLE	255	273											
EPSFAC	RCNTRL	REAL	SIMPLE	183												
F1DT	RDPARM	REAL	SIMPLE	184												
F2DT	RDPARM	REAL	SIMPLE	223												
FCORLS	RDPARM	REAL	ARRAY	224												
FILTER	LDPARM	LOGICAL	ARRAY	222												
FUSION	QANDQT	REAL	ARRAY	200	203											
GNU1	RCNTRL	REAL	SIMPLE	256	274											
GNU2	RCNTRL	REAL	SIMPLE	158												
GRAV	RCNTRL	REAL	SIMPLE	159												
GT	QANDQT	REAL	ARRAY	160												
GW	QANDQT	REAL	ARRAY	245	263											
H1DT	RDPARM	REAL	ARRAY	246	264											
H2DT	RDPARM	REAL	SIMPLE	225												
HEATI	RCNTRL	REAL	SIMPLE	226												
HEATW	RCNTRL	REAL	SIMPLE	182												
HFLUX	QANDQT	REAL	ARRAY	181												
I		INTEGER	SIMPLE	254	272											
IC	ICNTRL	INTEGER	ARRAY	315/C	318	319		319		319	320	322	322			
ICO	ICNTRL	INTEGER	ARRAY	90	91											
ICLOUD	QANDQT	INTEGER	ARRAY	25	90	91										
ICNTRL		INTEGER	UNKNOWN	259	277											
				25	26	27	28	29	30	31	32	33	34	35		

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				36	37	38	39	40	41	42	43	44	45	46
				47	48	49	50	51	52	53	54	55	56	57
				58	59	60	61	62	63	64	65	66	67	68
				69	70	71	72	73	74	75	76			
ICSP53	ICNTRL	INTEGER	SIMPLE	66										
ICSP55	ICNTRL	INTEGER	SIMPLE	68										
IDIABAT	ICNTRL	INTEGER	UNKNOWN	88										
IDPARM		INTEGER	UNKNOWN	189	190	191	192	193	194	195	196	197	198	199
IDSP02	IDPARM	INTEGER	SIMPLE	190										
IEFLUX	ICNTRL	INTEGER	UNKNOWN	82										
IFUSION	ICNTRL	INTEGER	UNKNOWN	83										
IHFLUX	ICNTRL	INTEGER	UNKNOWN	81										
IICLOUD	ICNTRL	INTEGER	UNKNOWN	86										
IJUMP	IDPARM	INTEGER	ARRAY	189										
IM	ICNTRL	INTEGER	SIMPLE	26	315									
IMD2	ICNTRL	INTEGER	SIMPLE	27										
IMD2P1	ICNTRL	INTEGER	SIMPLE	28										
INDEX	IDPARM	INTEGER	ARRAY	191										
IOMEGA	ICNTRL	INTEGER	UNKNOWN	87										
IPREACC	ICNTRL	INTEGER	UNKNOWN	79										
IPRECON	ICNTRL	INTEGER	UNKNOWN	80										
IQS	ICNTRL	INTEGER	ARRAY	75	77	78	79	80	81	82	83	84	85	86
IQU	ICNTRL	INTEGER	ARRAY	76	87	88	89							
IRADLWG	ICNTRL	INTEGER	UNKNOWN	85										
IRADSW	ICNTRL	INTEGER	UNKNOWN	89										
IRADSWG	ICNTRL	INTEGER	UNKNOWN	84										
IROD	IDPARM	INTEGER	SIMPLE	192										
ITAPE	IDPARM	LOGICAL	SIMPLE	201	204									
ITMAX	ICNTRL	INTEGER	UNKNOWN	78										
ITMIN	ICNTRL	INTEGER	UNKNOWN	77										
J		INTEGER	SIMPLE	1	304	318	319	319	319	320	322	322		
JC	IDPARM	INTEGER	ARRAY	193										
JE	IDPARM	INTEGER	ARRAY	194										
JIC	CONTRL	CHAR*8	SIMPLE	5	18									
JM	ICNTRL	INTEGER	SIMPLE	30										
JMD2	ICNTRL	INTEGER	SIMPLE	31										
JMT2	ICNTRL	INTEGER	SIMPLE	32										
JNP	ICNTRL	INTEGER	SIMPLE	33										
JO4	ICNTRL	INTEGER	SIMPLE	34										
JO8	ICNTRL	INTEGER	SIMPLE	35										
JOB	CONTRL	CHAR*8	SIMPLE	6	19									
JP	IDPARM	INTEGER	ARRAY	195										
JSP	ICNTRL	INTEGER	SIMPLE	36										
KLIALB	ICNTRL	INTEGER	SIMPLE	37										
KLIGW	ICNTRL	INTEGER	SIMPLE	38										
KLISST	ICNTRL	INTEGER	SIMPLE	39										
KS	ICNTRL	INTEGER	SIMPLE	40										
KSTEP	IDPARM	INTEGER	SIMPLE	196										
KU	ICNTRL	INTEGER	SIMPLE	41										
L		INTEGER	SIMPLE	306/C	307	309	309	309	316/C	317	319	319	319	319
LC	LCNTRL	LOGICAL	ARRAY	143	144									
LC0	LCNTRL	LOGICAL	SIMPLE	92	143	144								
LCNTRL		INTEGER	UNKNOWN	92	93	94	95	96	97	98	99	100	101	102
				103	104									
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	116	141									
LDPARM		INTEGER	UNKNOWN	200	201	202								
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	110	135									
LFUSION	LCNTRL	LOGICAL	UNKNOWN	111	136									
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	109	134									
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	139									
LM1		INTEGER	SIMPLE	307/S	308	309	309	310	317/S	318	319	319	319	320
LOGBR	ICNTRL	INTEGER	SIMPLE	42										
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	115	140									
LPREACC	LCNTRL	LOGICAL	UNKNOWN	107	132									
LPRECON	LCNTRL	LOGICAL	UNKNOWN	108	133									
LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114
				128										
LQU	LCNTRL	LOGICAL	ARRAY	104	115	116	117	129						
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138									
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	142									

LRADSWG	LCNTRL	LOGICAL	UNKNOWN	112	137														
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131														
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130														
M		INTEGER	SIMPLE	304/S	305	308	309	309	309	310	312	312							
MATIN	ICNTRL	INTEGER	SIMPLE	43															
MATSNX	ICNTRL	INTEGER	SIMPLE	44															
MATSUN	ICNTRL	INTEGER	SIMPLE	45															
MJ	IDPARM	INTEGER	ARRAY	197	304														
MLF	ICNTRL	INTEGER	ARRAY	46															
MROD	ICNTRL	INTEGER	SIMPLE	47															
MSM	ICNTRL	INTEGER	SIMPLE	49															
NB	ICNTRL	INTEGER	SIMPLE	50	308	309	309	309	310	312	312	318	319	319					
				319	320	322	322												
ND	ICNTRL	INTEGER	SIMPLE	51															
NDALT	ICNTRL	INTEGER	SIMPLE	52															
NDAY	ICNTRL	INTEGER	SIMPLE	53															
NDHOG	ICNTRL	INTEGER	SIMPLE	74															
NDOUT	ICNTRL	INTEGER	SIMPLE	54															
NDPHY	ICNTRL	INTEGER	SIMPLE	55															
NDRSW	ICNTRL	INTEGER	SIMPLE	29															
NDSHF	ICNTRL	INTEGER	SIMPLE	56															
NDT	ICNTRL	INTEGER	SIMPLE	57															
NHMS	ICNTRL	INTEGER	SIMPLE	58															
NHMS0	ICNTRL	INTEGER	SIMPLE	60															
NHMS1	IDPARM	INTEGER	SIMPLE	198															
NHMSE	ICNTRL	INTEGER	SIMPLE	59															
NKRSH	ICNTRL	INTEGER	SIMPLE	48															
NLAY	ICNTRL	INTEGER	SIMPLE	61	306	312	312	316	322	322									
NLAYM1	ICNTRL	INTEGER	SIMPLE	62															
NLAYP1	ICNTRL	INTEGER	SIMPLE	63															
NMLEV	ICNTRL	INTEGER	SIMPLE	73															
NSDAY	ICNTRL	INTEGER	SIMPLE	64															
NSEQ	ICNTRL	INTEGER	SIMPLE	65															
NSTEP	ICNTRL	INTEGER	SIMPLE	67															
NYMD	ICNTRL	INTEGER	SIMPLE	69															
NYMD0	ICNTRL	INTEGER	SIMPLE	71															
NYMD1	IDPARM	INTEGER	SIMPLE	199															
NYMDE	ICNTRL	INTEGER	SIMPLE	70															
NZINIT	ICNTRL	INTEGER	SIMPLE	72															
OMEGA	QANDQT	REAL	ARRAY	284	293														
OMEGA2	RCNTRL	REAL	SIMPLE	161															
P	QANDQT	REAL	ARRAY	249	267														
PHI	QANDQT	REAL	ARRAY	283	292														
PHIP	QPOLES	REAL	ARRAY	302															
PHIS	QANDQT	REAL	ARRAY	242	260														
PI	RCNTRL	REAL	SIMPLE	162															
PI180	RCNTRL	REAL	SIMPLE	163															
PI2	RCNTRL	REAL	SIMPLE	164															
PIMEAN	RCNTRL	REAL	SIMPLE	166															
PKSTD	RDPARM	REAL	SIMPLE	227															
PKTOP	RDPARM	REAL	SIMPLE	228															
PLEVS	RCNTRL	REAL	ARRAY	180															
PP	QPOLES	REAL	ARRAY	297															
PREACC	QANDQT	REAL	ARRAY	252	270														
PRECON	QANDQT	REAL	ARRAY	253	271														
PSMAX	RCNTRL	REAL	SIMPLE	167															
PSMIN	RCNTRL	REAL	SIMPLE	168															
PSTD	RCNTRL	REAL	SIMPLE	169															
PTOP	RCNTRL	REAL	SIMPLE	169															
PZERO	RCNTRL	REAL	SIMPLE	186															
QALT	LCNTRL	LOGICAL	SIMPLE	93	118														
QANDQT		REAL	UNKNOWN	241	278														
QBEG	LCNTRL	LOGICAL	SIMPLE	94	119														
QDAY	LCNTRL	LOGICAL	SIMPLE	95	120														
QEND	LCNTRL	LOGICAL	SIMPLE	96	121														
QOUT	LCNTRL	LOGICAL	SIMPLE	97	122														
QPHY	LCNTRL	LOGICAL	SIMPLE	98	123														
QPOLES		REAL	UNKNOWN	297	298	299	300	301	302										
QRSH	LCNTRL	LOGICAL	SIMPLE	102	127														
QRSW	LCNTRL	LOGICAL	SIMPLE	101	126														

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QS	QANDQT	REAL	ARRAY	241	260	261	262	263	264	265	266	267	268	269
QSHF	LCNTRL	LOGICAL	SIMPLE	270	271	272	273	274	275	276	277			
QU	QANDQT	REAL	ARRAY	99	124									
RADE	RCNTRL	REAL	SIMPLE	278	288	289	290	291	292	293	294	295	296	
RADLW	QANDQT	REAL	ARRAY	170										
RADLWG	QANDQT	REAL	ARRAY	287	296									
RADSW	QANDQT	REAL	ARRAY	258	276									
RADSWG	QANDQT	REAL	ARRAY	286	295									
RC	RCNTRL	REAL	ARRAY	257	275									
RCO	RCNTRL	REAL	SIMPLE	187	188									
RCNTRL	RCNTRL	REAL	UNKNOWN	145	187	188								
				145	146	147	148	149	150	151	152	153	154	155
				156	157	158	159	160	161	162	163	164	165	166
				167	168	169	170	171	172	173	174	175	176	177
				178	179	180	181	182	183	184	185	186		
RDPARM		REAL	UNKNOWN	206	207	208	209	210	211	212	213	214	215	216
				217	218	219	220	221	222	223	224	225	226	227
				228	229	230	231	232	233	234	235	236	237	238
				239	240									
RGAS	RCNTRL	REAL	SIMPLE	171										
RLAT	RDPARM	REAL	ARRAY	229										
RLATD	RDPARM	REAL	ARRAY	230										
ROCP	RCNTRL	REAL	SIMPLE	172										
ROCPDT	RDPARM	REAL	SIMPLE	231										
ROCPF1	RDPARM	REAL	SIMPLE	232										
RSDIST	RCNTRL	REAL	SIMPLE	173										
SDAY	RCNTRL	REAL	SIMPLE	174										
SEASON	RCNTRL	REAL	SIMPLE	175										
SGMP	RDPARM	REAL	ARRAY	233										
SH	QANDQT	REAL	ARRAY	282	291	318	319/S	319	319	320/S	322/S	322		
SHCORN			SUBROUTINE	1										
SHP	QPOLES	REAL	ARRAY	301	308	309/S	309	309	310/S	312/S	312			
SHS	QANDQT	REAL	ARRAY	248	266									
SIG	RDPARM	REAL	ARRAY	240										
SIGE	RCNTRL	REAL	ARRAY	176										
SIND	RCNTRL	REAL	SIMPLE	177										
SINL	RDPARM	REAL	ARRAY	234										
SINLON	RDPARM	REAL	ARRAY	235										
SMTH	QANDQT	REAL	ARRAY	243	261									
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125									
SOLS	RCNTRL	REAL	SIMPLE	178										
START	LDPARM	LOGICAL	SIMPLE	202	205									
T	QANDQT	REAL	ARRAY	281	290									
THSTD	RDPARM	REAL	SIMPLE	236										
THSTD2	RDPARM	REAL	SIMPLE	237										
TMAX	QANDQT	REAL	ARRAY	251	269									
TMIN	QANDQT	REAL	ARRAY	250	268									
TP	QPOLES	REAL	ARRAY	300										
TS	QANDQT	REAL	ARRAY	247	265									
TSTD	RCNTRL	REAL	SIMPLE	179										
U	QANDQT	REAL	ARRAY	279	288									
UP	QPOLES	REAL	ARRAY	298										
V	QANDQT	REAL	ARRAY	280	289									
VER	CCNTRL	CHAR*8	SIMPLE	10	23									
VP	QPOLES	REAL	ARRAY	299										
WSAVE	RDPARM	REAL	ARRAY	238										
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24									

PROCEDURE MAP

--NAME-----TYPE-----CLASS-----REFERENCES D=STMT FN DEF, A=ARGLIST

AMAX1 REAL INTRINSIC 312 322

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00001 SUBROUTINE SSMHAP
C .....
C PURPOSE
C APPLY TWO-WAY SHAPIRO FILTER TO PREVENT NONLINEAR
C INSTABILITY OF MODEL GLOBAL FIELDS:
C   SEA LEVEL PRESSURE,
C   SEA LEVEL TEMPERATURE,
C   POTENTIAL TEMPERATURES,
C   AND U AND V WIND COMPONENTS.
C   CALLED BY MAIN (GWSGCM) ONLY
C
C USAGE
C
C ARGUMENTS   DESCRIPTION
C             NONE
C
C SUBPROGRAMS NEEDED
C   NAME      DESCRIPTION
C   EXPBYK    COMPUTES P**KAPPA AND KAPPA=.2861328125
C
C RECORD OF MODIFICATIONS
C   BASED ON OLD VERSION 8.
C   ?DATE?    ?PROGRAMMER?  ?DESCRIPTION OF MODIFICATIONS?
C   05/04/83  RAMESH        THIS PART AND COMMENTS
C
C REMARKS:
C   ( 1 ) ?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.?
C .....
C M / A - C O M S I G M A D A T A I N C .   N A S A - G S F C
C .....
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00002 COMMON /CCNTRL/ CC0
00003 COMMON /CCNTRL/ ADATE
00004 COMMON /CCNTRL/ ATIME
00005 COMMON /CCNTRL/ JIC
00006 COMMON /CCNTRL/ JOB
00007 COMMON /CCNTRL/ CCSP06
00008 COMMON /CCNTRL/ CCSP07
00009 COMMON /CCNTRL/ CCSP08
00010 COMMON /CCNTRL/ VER
00011 COMMON /CCNTRL/ XLABEL (10)
00012 COMMON /CCNTRL/ CQS (30)
00013 COMMON /CCNTRL/ CQU (10)
C
00014 EQUIVALENCE (CC0,CC(1))
00015 CHARACTER*8 CC0, CC(200)
00016 CHARACTER*8 ADATE
00017 CHARACTER*8 ATIME
00018 CHARACTER*8 JIC
00019 CHARACTER*8 JOB
00020 CHARACTER*8 CCSP06
00021 CHARACTER*8 CCSP07
00022 CHARACTER*8 CCSP08
00023 CHARACTER*8 VER
00024 CHARACTER*8 XLABEL
C
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00025 COMMON /ICNTRL/ IC0
00026 COMMON /ICNTRL/ IM
00027 COMMON /ICNTRL/ IMD2
00028 COMMON /ICNTRL/ IMD2P1
00029 COMMON /ICNTRL/ NDRSW
00030 COMMON /ICNTRL/ JM
00031 COMMON /ICNTRL/ JMD2
00032 COMMON /ICNTRL/ JMT2
00033 COMMON /ICNTRL/ JNP

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SSMHAP 33
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SCNTRL 40

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00034	COMMON /ICNTRL/ JO4	SCNTRL 41
00035	COMMON /ICNTRL/ JO8	SCNTRL 42
00036	COMMON /ICNTRL/ JSP	SCNTRL 43
00037	COMMON /ICNTRL/ KLIALB	SCNTRL 44
00038	COMMON /ICNTRL/ KLIGW	SCNTRL 45
00039	COMMON /ICNTRL/ KLISST	SCNTRL 46
00040	COMMON /ICNTRL/ KS	SCNTRL 47
00041	COMMON /ICNTRL/ KU	SCNTRL 48
00042	COMMON /ICNTRL/ LOGBR	SCNTRL 49
00043	COMMON /ICNTRL/ MATIN	SCNTRL 50
00044	COMMON /ICNTRL/ MATSNX	SCNTRL 51
00045	COMMON /ICNTRL/ MATSUN	SCNTRL 52
00046	COMMON /ICNTRL/ MLF (12)	SCNTRL 53
00047	COMMON /ICNTRL/ MROD	SCNTRL 54
00048	COMMON /ICNTRL/ NKRSH	SCNTRL 55
00049	COMMON /ICNTRL/ MSM	SCNTRL 56
00050	COMMON /ICNTRL/ NB	SCNTRL 57
00051	COMMON /ICNTRL/ NO	SCNTRL 58
00052	COMMON /ICNTRL/ NDALT	SCNTRL 59
00053	COMMON /ICNTRL/ NDAY	SCNTRL 60
00054	COMMON /ICNTRL/ NDOUT	SCNTRL 61
00055	COMMON /ICNTRL/ NDPHY	SCNTRL 62
00056	COMMON /ICNTRL/ NDSHF	SCNTRL 63
00057	COMMON /ICNTRL/ NDT	SCNTRL 64
00058	COMMON /ICNTRL/ NHMS	SCNTRL 65
00059	COMMON /ICNTRL/ NHMSE	SCNTRL 66
00060	COMMON /ICNTRL/ NHMSO	SCNTRL 67
00061	COMMON /ICNTRL/ NLAY	SCNTRL 68
00062	COMMON /ICNTRL/ NLAYM1	SCNTRL 69
00063	COMMON /ICNTRL/ NLAYP1	SCNTRL 70
00064	COMMON /ICNTRL/ NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMD0	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
C		SCNTRL 84
00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 85
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 86
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 87
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 88
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 89
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 91
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 92
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 93
00086	EQUIVALENCE (ICLOUD ,IQS(10))	SCNTRL 94
C		SCNTRL 95
00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 96
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 97
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 98
C		SCNTRL 99
00090	EQUIVALENCE (IC0,IC(1))	SCNTRL 100
00091	INTEGER IC0, IC(200)	SCNTRL 101
C		SCNTRL 102
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL 103
C	=====	SCNTRL 104
00092	COMMON /LCNTRL/ LCO	SCNTRL 105
00093	COMMON /LCNTRL/ QALT	SCNTRL 106
00094	COMMON /LCNTRL/ QBEG	SCNTRL 107
00095	COMMON /LCNTRL/ QDAY	SCNTRL 108
00096	COMMON /LCNTRL/ QEND	SCNTRL 109
00097	COMMON /LCNTRL/ QOUT	SCNTRL 110
00098	COMMON /LCNTRL/ QPHY	SCNTRL 111

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00099 COMMON /LCNTRL/ QSHF
00100 COMMON /LCNTRL/ SN2FLG
00101 COMMON /LCNTRL/ QRSW
00102 COMMON /LCNTRL/ QRSW
00103 COMMON /LCNTRL/ LQS(30)
00104 COMMON /LCNTRL/ LQU(10)

C
00105 EQUIVALENCE (LTMIN ,LQS( 1))
00106 EQUIVALENCE (LTMAX ,LQS( 2))
00107 EQUIVALENCE (LPREACC ,LQS( 3))
00108 EQUIVALENCE (LPRECON ,LQS( 4))
00109 EQUIVALENCE (LHFLUX ,LQS( 5))
00110 EQUIVALENCE (LEFLUX ,LQS( 6))
00111 EQUIVALENCE (LFUSION ,LQS( 7))
00112 EQUIVALENCE (LRADSWG ,LQS( 8))
00113 EQUIVALENCE (LRADLWG ,LQS( 9))
00114 EQUIVALENCE (LICLOUD ,LQS(10))

C
00115 EQUIVALENCE (LOMEGA ,LOU( 1))
00116 EQUIVALENCE (LDIABAT ,LOU( 2))
00117 EQUIVALENCE (LRADSW ,LOU( 3))

C
00118 LOGICAL QALT
00119 LOGICAL QBEG
00120 LOGICAL QDAY
00121 LOGICAL QEND
00122 LOGICAL QOUT
00123 LOGICAL QPHY
00124 LOGICAL QSHF
00125 LOGICAL SN2FLG
00126 LOGICAL QRSW
00127 LOGICAL QRSW

C
00128 LOGICAL LQS
00129 LOGICAL LQU
00130 LOGICAL LTMIN
00131 LOGICAL LTMAX
00132 LOGICAL LPREACC
00133 LOGICAL LPRECON
00134 LOGICAL LHFLUX
00135 LOGICAL LEFLUX
00136 LOGICAL LFUSION
00137 LOGICAL LRADSWG
00138 LOGICAL LRADLWG
00139 LOGICAL LICLOUD

C
00140 LOGICAL LOMEGA
00141 LOGICAL LDIABAT
00142 LOGICAL LRADSW

C
00143 EQUIVALENCE (LC0,LC(1))
00144 LOGICAL LC0, LC(200)

C
C REAL MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00145 COMMON /RCNTRL/ RCO
00146 COMMON /RCNTRL/ APHEL
00147 COMMON /RCNTRL/ BETA
00148 COMMON /RCNTRL/ COSD
00149 COMMON /RCNTRL/ CP
00150 COMMON /RCNTRL/ DAYSPY
00151 COMMON /RCNTRL/ DEC
00152 COMMON /RCNTRL/ DECMAK
00153 COMMON /RCNTRL/ DIST
00154 COMMON /RCNTRL/ DLAT
00155 COMMON /RCNTRL/ DLON
00156 COMMON /RCNTRL/ DT
00157 COMMON /RCNTRL/ ECCN
00158 COMMON /RCNTRL/ GNU1
00159 COMMON /RCNTRL/ GNU2
00160 COMMON /RCNTRL/ GRAV

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SCNTRL 112
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SCNTRL 182

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00161 COMMON /RCNTRL/ OMEGA2
00162 COMMON /RCNTRL/ PI
00163 COMMON /RCNTRL/ PI180
00164 COMMON /RCNTRL/ PI2
00165 COMMON /RCNTRL/ PSTD
00166 COMMON /RCNTRL/ PIMEAN
00167 COMMON /RCNTRL/ PSMAK
00168 COMMON /RCNTRL/ PSMIN
00169 COMMON /RCNTRL/ PTOF
00170 COMMON /RCNTRL/ RADE
00171 COMMON /RCNTRL/ RGAS
00172 COMMON /RCNTRL/ ROCP
00173 COMMON /RCNTRL/ RSDIST
00174 COMMON /RCNTRL/ SDAV
00175 COMMON /RCNTRL/ SEASON
00176 COMMON /RCNTRL/ SIGE (25)
00177 COMMON /RCNTRL/ SIND
00178 COMMON /RCNTRL/ SOLS
00179 COMMON /RCNTRL/ TSTD
00180 COMMON /RCNTRL/ PLEVS (25)
00181 COMMON /RCNTRL/ HEATW
00182 COMMON /RCNTRL/ HEATI
00183 COMMON /RCNTRL/ EPS
00184 COMMON /RCNTRL/ EPSFAC
00185 COMMON /RCNTRL/ CALTOJ
00186 COMMON /RCNTRL/ PZERO

C
00187 EQUIVALENCE (RCO,RC(1))
00188 REAL RCO, RC(200)

C
C C INTEGER MODEL CONSTANTS
C C =====
00189 COMMON /IDPARM/ IJUMP (46)
00190 COMMON /IDPARM/ IDSP02
00191 COMMON /IDPARM/ INDEX (72)
00192 COMMON /IDPARM/ IROD
00193 COMMON /IDPARM/ JC (46)
00194 COMMON /IDPARM/ JE (21)
00195 COMMON /IDPARM/ JP (2,2)
00196 COMMON /IDPARM/ KSTEP
00197 COMMON /IDPARM/ MJ (46)
00198 COMMON /IDPARM/ NHMS1
00199 COMMON /IDPARM/ NYMD1

C
C C LOGICAL MODEL CONSTANTS
C C =====
00200 COMMON /LDPARM/ FILTER (46)
00201 COMMON /LDPARM/ ITAPE
00202 COMMON /LDPARM/ START

C
00203 LOGICAL FILTER
00204 LOGICAL ITAPE
00205 LOGICAL START

C
C C REAL MODEL CONSTANTS
C C =====
00206 COMMON /RDPARM/ ADLDP
00207 COMMON /RDPARM/ CON1
00208 COMMON /RDPARM/ CON1DT
00209 COMMON /RDPARM/ CON2
00210 COMMON /RDPARM/ CON2DT
00211 COMMON /RDPARM/ CON3
00212 COMMON /RDPARM/ CON3DT
00213 COMMON /RDPARM/ CON4
00214 COMMON /RDPARM/ CON4DT
00215 COMMON /RDPARM/ CON5
00216 COMMON /RDPARM/ COSL (46)
00217 COMMON /RDPARM/ COSLON (72)
00218 COMMON /RDPARM/ CPD2
00219 COMMON /RDPARM/ DXP (46)
00220 COMMON /RDPARM/ DXYP (46)

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SCNTRL 183
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SCNTRL 253

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00221 COMMON /RDPARM/ DYP (46)
 00222 COMMON /RDPARM/ FCORLS (46)
 00223 COMMON /RDPARM/ F1DT
 00224 COMMON /RDPARM/ F2DT
 00225 COMMON /RDPARM/ H1DT
 00226 COMMON /RDPARM/ H2DT
 00227 COMMON /RDPARM/ PKSTD
 00228 COMMON /RDPARM/ PKTOP
 00229 COMMON /RDPARM/ RLAT (46)
 00230 COMMON /RDPARM/ RLATD (46)
 00231 COMMON /RDPARM/ ROCPDT
 00232 COMMON /RDPARM/ ROCPPI
 00233 COMMON /RDPARM/ SGNP (2)
 00234 COMMON /RDPARM/ SINL (46)
 00235 COMMON /RDPARM/ SINLON (72)
 00236 COMMON /RDPARM/ THSTD
 00237 COMMON /RDPARM/ THSTD2
 00238 COMMON /RDPARM/ WSAVE (159)
 00239 COMMON /RDPARM/ DSIG (9)
 00240 COMMON /RDPARM/ SIG (9)

C

* * *
 C GLOBAL MODEL SURFACE FIELDS
 COMMON /QANDQT/ QS(72,19,46)

00241

C

00242 DIMENSION PHIS(1368,1)
 00243 DIMENSION SMTH(1368,23)
 00244 DIMENSION ALBEDO(1368,1)
 00245 DIMENSION GT(1368,1)
 00246 DIMENSION GW(1368,1)
 00247 DIMENSION TS(1368,1)
 00248 DIMENSION SHS(1368,1)
 00249 DIMENSION P(72,19,1)
 00250 DIMENSION TMIN(1368,1)
 00251 DIMENSION TMAX(1368,1)
 00252 DIMENSION PREACC(1368,1)
 00253 DIMENSION PRECON(1368,1)
 00254 DIMENSION HFLUX(1368,1)
 00255 DIMENSION EFLUX(1368,1)
 00256 DIMENSION FUSION(1368,1)
 00257 DIMENSION RADSWG(1368,1)
 00258 DIMENSION RADLWG(1368,1)
 00259 DIMENSION ICLOUD(1368,1)

C

00260 EQUIVALENCE (QS(1,1,1),PHIS(1,1))
 00261 EQUIVALENCE (QS(1,2,1),SMTH(1,1))
 00262 EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))
 00263 EQUIVALENCE (QS(1,4,1),GT(1,1))
 00264 EQUIVALENCE (QS(1,5,1),GW(1,1))
 00265 EQUIVALENCE (QS(1,6,1),TS(1,1))
 00266 EQUIVALENCE (QS(1,7,1),SHS(1,1))
 00267 EQUIVALENCE (QS(1,8,1),P(1,1,1))
 00268 EQUIVALENCE (QS(1,10,1),TMIN(1,1))
 00269 EQUIVALENCE (QS(1,11,1),TMAX(1,1))
 00270 EQUIVALENCE (QS(1,12,1),PREACC(1,1))
 00271 EQUIVALENCE (QS(1,13,1),PRECON(1,1))
 00272 EQUIVALENCE (QS(1,14,1),HFLUX(1,1))
 00273 EQUIVALENCE (QS(1,15,1),EFLUX(1,1))
 00274 EQUIVALENCE (QS(1,16,1),FUSION(1,1))
 00275 EQUIVALENCE (QS(1,17,1),RADSWG(1,1))
 00276 EQUIVALENCE (QS(1,18,1),RADLWG(1,1))
 00277 EQUIVALENCE (QS(1,19,1),ICLOUD(1,1))

C

* * *
 C GLOBAL MODEL UPPER-AIR FIELDS
 COMMON /QANDQT/ QU(72,9,14,46)

00278

C

00279 DIMENSION U(72,9,14,1)
 00280 DIMENSION V(72,9,14,1)
 00281 DIMENSION T(72,9,14,1)
 00282 DIMENSION SH(72,9,14,1)
 00283 DIMENSION PHI(72,9,14,1)

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 SQANDQT 50
 SQANDQT 51

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00284      DIMENSION      OMEGA(72,126,1)
00285      DIMENSION      DIABAT(72,126,1)
00286      DIMENSION      RADSW(72,126,1)
00287      DIMENSION      RADLW(72,126,1)
00288      C
00289      EQUIVALENCE      (QU(1,1,1,1),U(1,1,1,1))
00290      EQUIVALENCE      (QU(1,1,3,1),V(1,1,1,1))
00291      EQUIVALENCE      (QU(1,1,5,1),T(1,1,1,1))
00292      EQUIVALENCE      (QU(1,1,7,1),SH(1,1,1,1))
00293      EQUIVALENCE      (QU(1,1,9,1),PHI(1,1,1,1))
00294      EQUIVALENCE      (QU(1,1,11,1),OMEGA(1,1,1))
00295      EQUIVALENCE      (QU(1,1,12,1),DIABAT(1,1,1))
00296      EQUIVALENCE      (QU(1,1,13,1),RADSW(1,1,1))
00297      EQUIVALENCE      (QU(1,1,14,1),RADLW(1,1,1))
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00320      DO 105 L=1,NLAY
00321      FLD(I,J,2+L) = TP(L,NB,M)/EXPBYK(P(NB,M)*SIG(L)+PTOP)
00322 105      CONTINUE
00323      DO 110 I=1,IM
00324      FLD(I,J,1) = FLD(I,J,1)
00325      FLD(I,J,2) = FLD(I,J,2)
00326      FLD(I,J,2+NLAY+1) = FLD(I,J,2+NLAY+1)
00327      DO 110 L=1,NLAY
00328      FLD(I,J,2+L) = FLD(I,J,2+L)
00329 110      CONTINUE
00330      M = 2
00331      GO TO 140
00332 120      CONTINUE
00333      DO 130 I=1,IM
00334      FLD(I,J,1) = (P(I,NB,J) + PTOP)*SLEXP(TS(I,J),PHIS(I,J))
00335      FLD(I,J,2) = TS(I,J) + BETA*PHIS(I,J)/GRAV
00336      FLD(I,J,2+NLAY+1) = GT(I,J) + BETA*PHIS(I,J)/GRAV
00337      DO 130 L=1,NLAY
00338      FLD(I,J,2+L) = T(I,L,NB,J)/EXPBYK(P(I,NB,J)*SIG(L)+PTOP)
00339 130      CONTINUE
00340 140      CONTINUE
00341      GO TO 300

*****
*****      U AND V WIND COMPONENTS      *****
*****
*****
*****
00342 200      CONTINUE
00343      KFSGN = -1
00344      LM = 2+NLAY
00345      M = 1
00346      DO 240 J=1,JNP
00347      IF (J.NE.1 .AND. J.NE.JNP) GO TO 220
00348      DO 210 L=1,NLAY
00349      LL = L + NLAY
00350      DO 210 I=1,IM
00351      FLD(I,J,L) = -SINLON(I)*UP(L,NB,M) + SGNP(M)*COSLON(I)*VP(L,NB,M)
00352      FLD(I,J,LL) = -SGNP(M)*COSLON(I)*UP(L,NB,M) - SINLON(I)*VP(L,NB,M)
00353 210      CONTINUE
00354      M = 2
00355      GO TO 240
00356 220      CONTINUE
00357      DO 230 L=1,NLAY
00358      DO 230 I=1,IM
00359      FLD(I,J,L) = U(I,L,NB,J)
00360      FLD(I,J,L+NLAY) = V(I,L,NB,J)
00361 230      CONTINUE
00362 240      CONTINUE

*****
*****      VARIABLE ORDER SMOOTHING IN LONGITUDE DIRECTION *****
*****      VARIABLE FEATURE NORMALLY NOT USED *****
*****
*****
00363 300      CONTINUE
00364      DO 1180 L=1,LM
00365      DO 1010 J=2,JM
00366      NSM = 8

*****
*****      DETERMINE ORDER FROM JO4 AND JO8 *****
*****
*****
00367      IF (J.LE.JO8 .OR. J.GE.JM+2-JO8) NSM = 4
00368      IF (J.LE.JO4 .OR. J.GE.JM+2-JO4) NSM = 2

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SSMSHAP 68
SSMSHAP 69
SSMSHAP 70
SSMSHAP 71
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SSMSHAP208

SMSHAP 9

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00478      SUP = SUP - SINLON(I)*FLD(I,J,L) - SGNP(M)*COSLON(I)*FLD(I,J,LL) SSMSHAP281
00479      SVP = SVP + SGNP(M)*COSLON(I)*FLD(I,J,L) - SINLON(I)*FLD(I,J,LL) SSMSHAP282
00480      1310      CONTINUE SSMSHAP283
00481      UP(L,NB,M) = SUP/IM SSMSHAP284
00482      VP(L,NB,M) = SVP/IM SSMSHAP285
00483      DO 1315 I=1,IM SSMSHAP286
00484      U(I,L,NB,J) = -SINLON(I)*UP(L,NB,M) + SGNP(M)*COSLON(I)*VP(L,NB,M) SSMSHAP287
00485      V(I,L,NB,J) = -SGNP(M)*COSLON(I)*UP(L,NB,M) - SINLON(I)*VP(L,NB,M) SSMSHAP288
00486      1315      CONTINUE SSMSHAP289
00487      1320      CONTINUE SSMSHAP290
00488      M = 2 SSMSHAP291
00489      GO TO 1380 SSMSHAP292
00490      1340      CONTINUE SSMSHAP293
00491      DO 1360 L=1,NLAY SSMSHAP294
00492      DO 1350 I=1,IM SSMSHAP295
00493      U(I,L,NB,J) = FLD(I,J,L) SSMSHAP296
00494      V(I,L,NB,J) = FLD(I,J,L+NLAY) SSMSHAP297
00495      1350      CONTINUE SSMSHAP298
00496      1360      CONTINUE SSMSHAP299
00497      1380      CONTINUE SSMSHAP300
00498      1400      CONTINUE SSMSHAP301
00499      1900      CONTINUE SSMSHAP302
00500      WRITE (3,6000) SSMSHAP303
00501      RETURN SSMSHAP304
00502      6000      FORMAT ('OSHAPIO SMOOTHER APPLIED ') SSMSHAP305
00503      END

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STATEMENT LABEL MAP
 --LABEL---DEFINED---REFERENCES

100	311	310	
10000	308		
1010	388	365	
1020	372	370	
1030	384	373	
1035	378	375	
1040	383	380	
105	322	320	
1050	387	385	
110	329	323	327
1110	424	391	
1120	396	393	
1135	403	400	
1140	408	405	
1145	422	416	419
1150	423	398	413
1180	426	364	389
120	332	316	
1200	427	426	
1210	435	433	
1220	437	431	
1225	442	440	
1227	447	445	
1230	448	443	
1233	453	451	
1235	454	449	
1240	457	430	
1250	463	461	
1260	466	458	464
1280	467	429	456
130	339	333	337
1300	469	426	
1310	480	477	
1315	486	483	
1320	487	473	
1340	490	472	
1350	495	492	
1360	496	491	
1380	497	471	489
140	340	315	331
1400	498	468	

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 OF POOR QUALITY

350

358

15

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--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES
```

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

SMITHAP 11

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OF POOR QUALITY

				386/S	386	394	395	417/S	417	418/S	418	420/S	420	421
				421	434	436/S	438	439	444	450	459	460	462	465
				478	478	479	479	493	494					
FUSION	QANDQT	REAL	ARRAY	256	274									
GNU1	RCNTRL	REAL	SIMPLE	158										
GNU2	RCNTRL	REAL	SIMPLE	159										
GRAV	RCNTRL	REAL	SIMPLE	160										
GT	QANDQT	REAL	ARRAY	245	307	318	319	335	336	438	450	459	465	
GW	QANDQT	REAL	ARRAY	246	263	319	336	450/S	452/S	452	465/S			
H1DT	RDPARM	REAL	ARRAY	225	264									
H2DT	RDPARM	REAL	SIMPLE	226										
HEAT1	RCNTRL	REAL	SIMPLE	182										
HEATW	RCNTRL	REAL	SIMPLE	181										
HFLUX	QANDQT	REAL	ARRAY	254										
I		INTEGER	SIMPLE	323/C	272									
				324	325	326	326	328	333/C	334	334	334	334	335
				335	336	336	336	336	338	338	338	350/C	351	351
				351	352	352	352	358/C	359	359	360	360	370/C	371
				371	374/S	376	376	377/S	380/C	381	381	382	385/C	386
				386	386	391/C	392	394	417	417	420	420	433/C	434
				440/C	441	445/C	446	451/C	452	458/C	459	459	460	460
				460	462	462	462	464	465	465	465	477/C	478	478
				478	478	479	479	479	479	483/C	484	484	484	485
				485	485	492/C	493	493	494	494				
IC	ICNTRL	INTEGER	ARRAY	90	91									
IC0	ICNTRL	INTEGER	SIMPLE	25	90									
ICLOUD	QANDQT	INTEGER	ARRAY	259	277	91								
ICNTRL		INTEGER	UNKNOWN	25	26	27	28	29	30	31	32	33	34	35
				36	37	38	39	40	41	42	43	44	45	46
				47	48	49	50	51	52	53	54	55	56	57
				58	59	60	61	62	63	64	65	66	67	68
				69	70	71	72	73	74	75	76			
ICSP53	ICNTRL	INTEGER	SIMPLE	66										
ICSP55	ICNTRL	INTEGER	SIMPLE	68										
IDIBAT	ICNTRL	INTEGER	UNKNOWN	88										
IDPARM	ICNTRL	INTEGER	UNKNOWN	189	190	191	192	193	194	195	196	197	198	199
IDSP02	IDPARM	INTEGER	SIMPLE	190										
IEFLUX	ICNTRL	INTEGER	UNKNOWN	82										
IFUSION	ICNTRL	INTEGER	UNKNOWN	83										
IHFLUX	ICNTRL	INTEGER	UNKNOWN	81										
IICLOUD	ICNTRL	INTEGER	UNKNOWN	86										
IJUMP	IDPARM	INTEGER	ARRAY	189										
IM	ICNTRL	INTEGER	SIMPLE	26	323	333	350	358	370	374	375	379	380	385
				433	436	440	445	451	458	477	481	482	483	492
IMD2	ICNTRL	INTEGER	SIMPLE	27	391	392								
IMD2P1	ICNTRL	INTEGER	SIMPLE	28										
INDEX	IDPARM	INTEGER	ARRAY	191										
IOMEGA	ICNTRL	INTEGER	UNKNOWN	87										
IP1	ICNTRL	INTEGER	SIMPLE	375/C	376	377								
IPREACC	ICNTRL	INTEGER	UNKNOWN	79										
IPRECON	ICNTRL	INTEGER	UNKNOWN	80										
IQS	ICNTRL	INTEGER	ARRAY	75	77	78	79	80	81	82	83	84	85	86
IQU	ICNTRL	INTEGER	ARRAY	76	87	88	89							
IRADLWG	ICNTRL	INTEGER	UNKNOWN	85										
IRADSW	ICNTRL	INTEGER	UNKNOWN	89										
IRADSWG	ICNTRL	INTEGER	UNKNOWN	84										
IROD	IDPARM	INTEGER	SIMPLE	192										
ISI	ICNTRL	INTEGER	SIMPLE	379/S	381	382/S								
ITAPE	LDPARM	LOGICAL	SIMPLE	201	204									
ITMAX	ICNTRL	INTEGER	UNKNOWN	78										
ITMIN	ICNTRL	INTEGER	UNKNOWN	77										
IX		INTEGER	SIMPLE	392/S	395	418	418	421	421					
J		INTEGER	SIMPLE	315/C	316	316	317	317	317	318	318	318	319	319
				319	321	324	324	325	325	326	326	328	328	334
				334	334	334	335	335	335	336	336	336	338	338
				338	346/C	347	347	351	352	359	359	360	360	365
				367	367	368	368	371	386	386	393/C	394	394	395
				395	399/S	401	401	402/S	405/C	406	406	407	416/C	417
				417	417	418	418	418	419	419	420	420	420	421
				421	421	429/C	430	430	434	436	438	438	439	439

				441	444	446	449	450	450	450	452	452	459	459
				460	460	460	462	462	462	464	465	465	465	471
				472	472	478	478	479	479	484	485	493	493	494
				494										
JC	IDPARM	INTEGER	ARRAY	193										
JE	IDPARM	INTEGER	ARRAY	194										
JIC	CCNTRL	CHAR*8	SIMPLE	5	18									
JL1		INTEGER	SIMPLE	409/S	413	416								
JL2		INTEGER	SIMPLE	397/S	409	410/S	411/S	412/S	413	416				
JM	ICNTRL	INTEGER	SIMPLE	30	365	367	368	393	395	395	418	418	418	419
JMD2	ICNTRL	INTEGER	SIMPLE	420	420	420								
JMT2	ICNTRL	INTEGER	SIMPLE	31	412									
JNP	ICNTRL	INTEGER	SIMPLE	32	399	400	404	405	414	421		472		
JO4	ICNTRL	INTEGER	SIMPLE	33	315	316	346	347	429	430				
JO8	ICNTRL	INTEGER	SIMPLE	34	368	368	410							
JO8	CCNTRL	CHAR*8	SIMPLE	35	367	367	411							
JP	IDPARM	INTEGER	ARRAY	6	19									
JP1		INTEGER	SIMPLE	195										
JS1		INTEGER	SIMPLE	400/C	401	402								
JSP	ICNTRL	INTEGER	SIMPLE	404/S	406	407/S								
KF		INTEGER	SIMPLE	36										
KFSGN		INTEGER	SIMPLE	309/C	310	389	425							
KLIALB	ICNTRL	INTEGER	SIMPLE	312/S	343/S	395	418	421						
KLIGW	ICNTRL	INTEGER	SIMPLE	37										
KLISST	ICNTRL	INTEGER	SIMPLE	38										
KS	ICNTRL	INTEGER	SIMPLE	39										
KSTEP	IDPARM	INTEGER	SIMPLE	40										
KU	ICNTRL	INTEGER	SIMPLE	196										
L		INTEGER	SIMPLE	41										
				320/C	321	321	321	327/C	328	328	337/C	338	338	338
				348/C	349	351	351	351	352	352	357/C	359	359	360
				360	364/C	371	386	386	394	395	417	417	418	418
				420	420	421	421	431/C	434	436	443/C	444	444	444
				446	446	461/C	462	462	462	473/C	474	478	479	481
				482	484	484	484	485	485	485	491/C	493	493	494
				494										
LC	LCNTRL	LOGICAL	ARRAY	143	144									
LOO	LCNTRL	LOGICAL	SIMPLE	92	143	144								
LCNTRL		INTEGER	UNKNOWN	92	93	94	95	96	97	98	99	100	101	102
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	103	104									
LDPARM		INTEGER	UNKNOWN	116	141									
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	200	201	202								
LFUSION	LCNTRL	LOGICAL	UNKNOWN	110	135									
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	111	136									
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	109	134									
LL		INTEGER	SIMPLE	114	139									
LM		INTEGER	SIMPLE	349/S	352	474/S	478	479						
LOGBR	ICNTRL	INTEGER	SIMPLE	313/S	344/S	354	431							
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	42										
LPREACC	LCNTRL	LOGICAL	UNKNOWN	115	140									
LPRECON	LCNTRL	LOGICAL	UNKNOWN	107	132									
				108	133									
LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114
				128										
LQU	LCNTRL	LOGICAL	ARRAY	104	115	116	117	129						
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138									
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	142									
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	112	137									
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131									
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130									
M		INTEGER	SIMPLE	314/S	317	321	321	330/S	345/S	351	351	351	352	352
				352	354/S	428/S	439	441	444	444	446	455/S	470/S	478
				479	481	482	484	484	484	485	485	485	488/S	
MATIN	ICNTRL	INTEGER	SIMPLE	43										
MATSNX	ICNTRL	INTEGER	SIMPLE	44										
MATSUM	ICNTRL	INTEGER	SIMPLE	45										
MJ	IDPARM	INTEGER	ARRAY	197										
MLF	ICNTRL	INTEGER	ARRAY	46										
MROD	ICNTRL	INTEGER	SIMPLE	47										
MSM	ICNTRL	INTEGER	SIMPLE	49										

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N	ICNTRL	INTEGER	SIMPLE	373/C	398/C	410	411	412	415	338	351	351	352	352
NB		INTEGER	SIMPLE											
ND	ICNTRL	INTEGER	SIMPLE	50	317	410	411	412	415	338	351	351	352	352
NDALT	ICNTRL	INTEGER	SIMPLE	359	360	439	441	441	444	444	446	446	460	462
NDAY	ICNTRL	INTEGER	SIMPLE	462	481	482	484	484	484	485	485	485	493	494
NDHOG	ICNTRL	INTEGER	SIMPLE	51										
NDOUT	ICNTRL	INTEGER	SIMPLE	52										
NDPHY	ICNTRL	INTEGER	SIMPLE	53										
NDRSW	ICNTRL	INTEGER	SIMPLE	74										
NDRSHF	ICNTRL	INTEGER	SIMPLE	54										
NDT	ICNTRL	INTEGER	SIMPLE	55										
NHMS	ICNTRL	INTEGER	SIMPLE	29										
NHMS0	ICNTRL	INTEGER	SIMPLE	56										
NHMS1	ICNTRL	INTEGER	SIMPLE	57										
NHMSE	ICNTRL	INTEGER	SIMPLE	58										
NKRSH	ICNTRL	INTEGER	SIMPLE	59										
NLAY	ICNTRL	INTEGER	SIMPLE	60										
NLAYM1	ICNTRL	INTEGER	SIMPLE	198										
NLAYP1	ICNTRL	INTEGER	SIMPLE	59										
NMLEV	ICNTRL	INTEGER	SIMPLE	48										
NSDAY	ICNTRL	INTEGER	SIMPLE	61	313	319	320	326	326	327	336	337	344	348
NSEQ	ICNTRL	INTEGER	SIMPLE	349	357	360	443	450	451	455	473	474	491	494
NSM	ICNTRL	INTEGER	SIMPLE	62										
NSTEP	ICNTRL	INTEGER	SIMPLE	63										
NYMO	ICNTRL	INTEGER	SIMPLE	73										
NYMDO	ICNTRL	INTEGER	SIMPLE	64										
NYMD1	IDPARM	INTEGER	SIMPLE	65										
NYMDE	ICNTRL	INTEGER	SIMPLE	366/S	367/S	368/S	369	373	390/S	398				
NZINIT	ICNTRL	INTEGER	SIMPLE	67										
OMEGA	QANDQT	REAL	ARRAY	69										
OMEGA2	RCNTRL	REAL	SIMPLE	71										
P	QANDQT	REAL	ARRAY	199										
PHI	QANDQT	REAL	ARRAY	70										
PHIP	QPOLES	REAL	ARRAY	72										
PHIS	QANDQT	REAL	ARRAY	284	293									
PI	RCNTRL	REAL	SIMPLE	161										
PI180	RCNTRL	REAL	SIMPLE	249	267	334	338	441/S	460/S	462				
PI2	RCNTRL	REAL	SIMPLE	283	292									
PIMEAN	RCNTRL	REAL	SIMPLE	302	260	307	307	307	317	318	319	334	335	336
PK	//	REAL	ARRAY	438	439	449	450	459	460	464	465			
PKSTD	RDPARM	REAL	SIMPLE	162										
PKTOP	RDPARM	REAL	SIMPLE	163										
PLEVS	RCNTRL	REAL	ARRAY	164										
PP	QPOLES	REAL	ARRAY	166										
PREACC	QANDQT	REAL	ARRAY	305										
PRECON	QANDQT	REAL	ARRAY	227										
PSMAX	RCNTRL	REAL	SIMPLE	228										
PSMIN	RCNTRL	REAL	SIMPLE	180										
PSTD	RCNTRL	REAL	SIMPLE	297	317	321	439/S	441	444					
PT	//	REAL	ARRAY	252	270									
PTOP	RCNTRL	REAL	SIMPLE	253	271									
PZERO	RCNTRL	REAL	SIMPLE	167										
QALT	LCNTRL	LOGICAL	SIMPLE	168										
QANDQT	RCNTRL	REAL	UNKNOWN	165										
QBEG	LCNTRL	LOGICAL	SIMPLE	166										
QDAY	LCNTRL	LOGICAL	SIMPLE	305										
QEND	LCNTRL	LOGICAL	SIMPLE	169	317	321	334	338	439	444	460	462		
QOUT	LCNTRL	LOGICAL	SIMPLE	186										
QPHY	LCNTRL	LOGICAL	SIMPLE	93	118									
QPOLES	REAL	UNKNOWN		241	278									
QRSH	LCNTRL	LOGICAL	SIMPLE	94	119									
QRSW	LCNTRL	LOGICAL	SIMPLE	95	120									
QS	QANDQT	REAL	ARRAY	96	121									
QSHF	LCNTRL	LOGICAL	SIMPLE	97	122									
QU	QANDQT	REAL	ARRAY	98	123									
				297	298	299	300	301	302					
				102	127									
				101	126									
				241	260	261	262	263	264	265	266	267	268	269
				270	271	272	273	274	275	276	277			
				99	124									
				278	288	289	290	291	292	293	294	295	296	

RADE	RCNTRL	REAL	SIMPLE	170															
RADLW	QANDQT	REAL	ARRAY	287	296														
RADLWG	QANDQT	REAL	ARRAY	258	276														
RADSW	QANDQT	REAL	ARRAY	286	295														
RADSWG	QANDQT	REAL	ARRAY	257	275														
RC	RCNTRL	REAL	ARRAY	187	188														
RCO	RCNTRL	REAL	SIMPLE	145	187	188													
RCNTRL	RCNTRL	REAL	UNKNOWN	145	146	147	148	149	150	151	152	153	154	155					
				156	157	158	159	160	161	162	163	164	165	166					
				167	168	169	170	171	172	173	174	175	176	177					
				178	179	180	181	182	183	184	185	186							
RDPARM		REAL	UNKNOWN	206	207	208	209	210	211	212	213	214	215	216					
				217	218	219	220	221	222	223	224	225	226	227					
				228	229	230	231	232	233	234	235	236	237	238					
				239	240														
				307															
RGAS	RCNTRL	REAL	SIMPLE	171															
RLAT	RDPARM	REAL	ARRAY	229															
RLATD	RDPARM	REAL	ARRAY	230															
ROCP	RCNTRL	REAL	SIMPLE	172															
ROCPDT	RDPARM	REAL	SIMPLE	231															
ROCPP1	RDPARM	REAL	SIMPLE	232															
RSDIST	RCNTRL	REAL	SIMPLE	173															
SDAY	RCNTRL	REAL	SIMPLE	174															
SEASON	RCNTRL	REAL	SIMPLE	175															
SFPOL		REAL	SIMPLE	432/S	434/S	434	436												
SGNP	RDPARM	REAL	ARRAY	233	351	352	478	479	484	485									
SH	QANDQT	REAL	ARRAY	282	291														
SHP	QPOLES	REAL	ARRAY	301															
SHS	QANDQT	REAL	ARRAY	248	266														
SIG	RDPARM	REAL	ARRAY	240	321	338	444	462											
SIGE	RCNTRL	REAL	ARRAY	176															
SIND	RCNTRL	REAL	SIMPLE	177															
SINL	RDPARM	REAL	ARRAY	234															
SINLON	RDPARM	REAL	ARRAY	235	351	352	478	479	484	485									
SMSHAP			SUBROUTINE	1															
SMTH	QANDQT	REAL	ARRAY	243	261														
SN2FLG	RCNTRL	LOGICAL	SIMPLE	100	125														
SOLS	RCNTRL	REAL	SIMPLE	178															
START	LDPARM	LOGICAL	SIMPLE	202	205														
SUP		REAL	SIMPLE	475/S	478/S	478	481												
SVP		REAL	SIMPLE	476/S	479/S	479	482												
T	QANDQT	REAL	ARRAY	281	290	338	446/S	462/S											
THSTD	RDPARM	REAL	SIMPLE	236															
THSTD2	RDPARM	REAL	SIMPLE	237															
TMAX	QANDQT	REAL	ARRAY	251	269														
TMIN	QANDQT	REAL	ARRAY	250	268														
TP	QPOLES	REAL	ARRAY	300	321	444/S	446												
TS	QANDQT	REAL	ARRAY	247	265	307	307	317	318	334	335								
TSTD	RCNTRL	REAL	SIMPLE	179															
TSURF		REAL	SIMPLE	438/S	439	459/S	460												
U	QANDQT	REAL	ARRAY	279	288	359	484/S	493/S											
UP	QPOLES	REAL	ARRAY	298	351	352	481/S	484	485										
V	QANDQT	REAL	ARRAY	280	289	360	485/S	494/S											
VER	CCNTRL	CHAR*B	SIMPLE	10	23														
VP	QPOLES	REAL	ARRAY	299	351	352	482/S	484	485										
WSAVE	RDPARM	REAL	ARRAY	238															
XLABEL	CCNTRL	CHAR*B	ARRAY	11	24														

PROCEDURE MAP

--NAME--	-----TYPE-----	-----CLASS-----	-----REFERENCES-----	D=STMT FN DEF, A=ARGLIST
EXP	REAL	INTRINSIC	307	
EXPBYK	REAL	FUNCTION	321	338 444 462
SLEXP	REAL	STAT FUNC	307/S	317 334 439 460

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SUBROUTINE SOLAR1 (J,XLAT)

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C *****  
C *****  
C *****  
C *****  
C *****  
C *****
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C	ARGUMENTS	DESCRIPTION
C	NLAY	NUMBER OF SIGMA LAYERS
C	XDAY	SOLAR DAY OF THE YEAR
C	XLAT	LATITUDE IN DEGREES

C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD

```

00002      COMMON /CNTRL/  CCO
00003      COMMON /CNTRL/  ADABE
00004      COMMON /CNTRL/  ATIME
00005      COMMON /CNTRL/  JIC
00006      COMMON /CNTRL/  JOB
00007      COMMON /CNTRL/  CCSP06
00008      COMMON /CNTRL/  CCSP07
00009      COMMON /CNTRL/  CCSP08
00010      COMMON /CNTRL/  VER
00011      COMMON /CNTRL/  XLABEL (10)
00012      COMMON /CNTRL/  CQS (30)
00013      COMMON /CNTRL/  COU (10)

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```
00014      EQUIVALENCE      (CCO,CC(1))
00015      CHARACTER*8        CCO,  CC(200)
00016      CHARACTER*8        ADATE
00017      CHARACTER*8        ATIME
00018      CHARACTER*8        JIC
00019      CHARACTER*8        JOB
00020      CHARACTER*8        CCSP06
00021      CHARACTER*8        CCSP07
00022      CHARACTER*8        CCSP08
00023      CHARACTER*8        VER
00024      CHARACTER*8        XLABEL
```

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C
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD

```

```

00025 COMMON /ICNTRL/ ICO
00026 COMMON /ICNTRL/ IM
00027 COMMON /ICNTRL/ IMD2
00028 COMMON /ICNTRL/ IMD2P1
00029 COMMON /ICNTRL/ NDRSW
00030 COMMON /ICNTRL/ JM
00031 COMMON /ICNTRL/ JMD2
00032 COMMON /ICNTRL/ JMT2
00033 COMMON /ICNTRL/ JNP
00034 COMMON /ICNTRL/ JO4
00035 COMMON /ICNTRL/ J08
00036 COMMON /ICNTRL/ JSP
00037 COMMON /ICNTRL/ KLIALB
00038 COMMON /ICNTRL/ KLIGW
00039 COMMON /ICNTRL/ KLISST
00040 COMMON /ICNTRL/ KS
00041 COMMON /ICNTRL/ KU
00042 COMMON /ICNTRL/ LOG8R
00043 COMMON /ICNTRL/ MATIN
00044 COMMON /ICNTRL/ MATSNX
00045 COMMON /ICNTRL/ MATSUN
00046 COMMON /ICNTRL/ MLF (12)
00047 COMMON /ICNTRL/ MRCD
00048 COMMON /ICNTRL/ NKRSR
00049 COMMON /ICNTRL/ MSM
00050 COMMON /ICNTRL/ NB
00051 COMMON /ICNTRL/ ND
00052 COMMON /ICNTRL/ NDALT

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SSOLAR1	2
SSOLAR1	3
SSOLAR1	4
SSOLAR1	5
SSOLAR1	6
SSOLAR1	7
SSOLAR1	8
SSOLAR1	9
SSOLAR1	10
SSOLAR1	11
SSOLAR1	12
SSOLAR1	13
SSOLAR1	14
SCNTRL	2
SCNTRL	3
SCNTRL	4
SCNTRL	5
SCNTRL	6
SCNTRL	7
SCNTRL	8
SCNTRL	9
SCNTRL	10
SCNTRL	11
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SCNTRL	54
SCNTRL	55
SCNTRL	56
SCNTRL	57
SCNTRL	58
SCNTRL	59

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SOLAR 1

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00053	COMMON /ICNTRL/ NDAY	SCNTRL 60
00054	COMMON /ICNTRL/ NDOUT	SCNTRL 61
00055	COMMON /ICNTRL/ NDPHY	SCNTRL 62
00056	COMMON /ICNTRL/ NDSHF	SCNTRL 63
00057	COMMON /ICNTRL/ NDT	SCNTRL 64
00058	COMMON /ICNTRL/ NHMS	SCNTRL 65
00059	COMMON /ICNTRL/ NHMSE	SCNTRL 66
00060	COMMON /ICNTRL/ NHMSO	SCNTRL 67
00061	COMMON /ICNTRL/ NLAY	SCNTRL 68
00062	COMMON /ICNTRL/ NLAYM1	SCNTRL 69
00063	COMMON /ICNTRL/ NLAYP1	SCNTRL 70
00064	COMMON /ICNTRL/ NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMD0	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS(30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU(10)	SCNTRL 83
C		SCNTRL 84
00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 85
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 86
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 87
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 88
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 89
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 91
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 92
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 93
00086	EQUIVALENCE (IICLOUD ,IQS(10))	SCNTRL 94
C		SCNTRL 95
00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 96
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 97
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 98
C		SCNTRL 99
00090	EQUIVALENCE (IC0,IC(1))	SCNTRL 100
00091	INTEGER IC0, IC(200)	SCNTRL 101
C		SCNTRL 102
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL 103
C	=====	SCNTRL 104
00092	COMMON /LCNTRL/ LCO	SCNTRL 105
00093	COMMON /LCNTRL/ QALT	SCNTRL 106
00094	COMMON /LCNTRL/ QBEG	SCNTRL 107
00095	COMMON /LCNTRL/ QDAY	SCNTRL 108
00096	COMMON /LCNTRL/ QEND	SCNTRL 109
00097	COMMON /LCNTRL/ QOUT	SCNTRL 110
00098	COMMON /LCNTRL/ QPHY	SCNTRL 111
00099	COMMON /LCNTRL/ QSHF	SCNTRL 112
00100	COMMON /LCNTRL/ SN2FLG	SCNTRL 113
00101	COMMON /LCNTRL/ QRSW	SCNTRL 114
00102	COMMON /LCNTRL/ QRSH	SCNTRL 115
00103	COMMON /LCNTRL/ LQS(30)	SCNTRL 116
00104	COMMON /LCNTRL/ LQU(10)	SCNTRL 117
C		SCNTRL 118
00105	EQUIVALENCE (LTMIN ,LQS(1))	SCNTRL 119
00106	EQUIVALENCE (LTMAX ,LQS(2))	SCNTRL 120
00107	EQUIVALENCE (LPREACC ,LQS(3))	SCNTRL 121
00108	EQUIVALENCE (LPRECON ,LQS(4))	SCNTRL 122
00109	EQUIVALENCE (LHFLUX ,LQS(5))	SCNTRL 123
00110	EQUIVALENCE (LEFLUX ,LQS(6))	SCNTRL 124
00111	EQUIVALENCE (LFUSION ,LQS(7))	SCNTRL 125
00112	EQUIVALENCE (LRADSWG ,LQS(8))	SCNTRL 126
00113	EQUIVALENCE (LRADLWG ,LQS(9))	SCNTRL 127
00114	EQUIVALENCE (LICLOUD ,LQS(10))	SCNTRL 128
C		SCNTRL 129
00115	EQUIVALENCE (LOMEGA ,LQU(1))	SCNTRL 130

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00116 EQUIVALENCE (LDIABAT ,LQU( 2))
00117 EQUIVALENCE (LRADSW ,LQU( 3))

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00118 LOGICAL QALT
00119 LOGICAL QBEG
00120 LOGICAL QDAY
00121 LOGICAL QEND
00122 LOGICAL QOUT
00123 LOGICAL QPHY
00124 LOGICAL QSHF
00125 LOGICAL SN2FLG
00126 LOGICAL QRSW
00127 LOGICAL QRSW

C
00128 LOGICAL LQS
00129 LOGICAL LQU
00130 LOGICAL LTMIN
00131 LOGICAL LTMAX
00132 LOGICAL LPREACC
00133 LOGICAL LPRECON
00134 LOGICAL LHFLUX
00135 LOGICAL LEFLUX
00136 LOGICAL LFUSION
00137 LOGICAL LRADSWG
00138 LOGICAL LRADLWG
00139 LOGICAL LICLOUD

C
00140 LOGICAL LOMEGA
00141 LOGICAL LDIABAT
00142 LOGICAL LRADSW

C
00143 EQUIVALENCE (LC0,LC(1))
00144 LOGICAL LC0, LC(200)

C REAL MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00145 COMMON /RCNTRL/ RCO
00146 COMMON /RCNTRL/ APHEL
00147 COMMON /RCNTRL/ BETA
00148 COMMON /RCNTRL/ COSD
00149 COMMON /RCNTRL/ CP
00150 COMMON /RCNTRL/ DAYSPLY
00151 COMMON /RCNTRL/ DEC
00152 COMMON /RCNTRL/ DECMAX
00153 COMMON /RCNTRL/ DIST
00154 COMMON /RCNTRL/ DLAT
00155 COMMON /RCNTRL/ DLON
00156 COMMON /RCNTRL/ DT
00157 COMMON /RCNTRL/ ECCN
00158 COMMON /RCNTRL/ GNU1
00159 COMMON /RCNTRL/ GNU2
00160 COMMON /RCNTRL/ GRAV
00161 COMMON /RCNTRL/ OMEGA2
00162 COMMON /RCNTRL/ PI
00163 COMMON /RCNTRL/ PI180
00164 COMMON /RCNTRL/ PI2
00165 COMMON /RCNTRL/ PSTD
00166 COMMON /RCNTRL/ PIMEAN
00167 COMMON /RCNTRL/ PSMAX
00168 COMMON /RCNTRL/ PSMIN
00169 COMMON /RCNTRL/ PTOP
00170 COMMON /RCNTRL/ RADE
00171 COMMON /RCNTRL/ RGAS
00172 COMMON /RCNTRL/ ROCP
00173 COMMON /RCNTRL/ RSDIST
00174 COMMON /RCNTRL/ SDAY
00175 COMMON /RCNTRL/ SEASON
00176 COMMON /RCNTRL/ SIGE (25)
00177 COMMON /RCNTRL/ SIND
00178 COMMON /RCNTRL/ SOLS
00179 COMMON /RCNTRL/ TSTD

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00180	COMMON /RCNTRL/ PLEVS (25)	SCNTRL 202
00181	COMMON /RCNTRL/ HEATW	SCNTRL 203
00182	COMMON /RCNTRL/ HEATI	SCNTRL 204
00183	COMMON /RCNTRL/ EPS	SCNTRL 205
00184	COMMON /RCNTRL/ EPSFAC	SCNTRL 206
00185	COMMON /RCNTRL/ CALTOJ	SCNTRL 207
00186	COMMON /RCNTRL/ PZERO	SCNTRL 208
	C	SCNTRL 209
00187	EQUIVALENCE (RC0,RC(1))	SCNTRL 210
00188	REAL RC0, RC(200)	SCNTRL 211
	C	SCNTRL 212
	C	SCNTRL 213
	C	SCNTRL 214
	C	SCNTRL 215
00189	COMMON /IDPARM/ IJUMP (46)	SCNTRL 216
00190	COMMON /IDPARM/ IDSP02	SCNTRL 217
00191	COMMON /IDPARM/ INDEX (72)	SCNTRL 218
00192	COMMON /IDPARM/ IROD	SCNTRL 219
00193	COMMON /IDPARM/ JC (46)	SCNTRL 220
00194	COMMON /IDPARM/ JE (2)	SCNTRL 221
00195	COMMON /IDPARM/ JP (2,2)	SCNTRL 222
00196	COMMON /IDPARM/ KSTEP	SCNTRL 223
00197	COMMON /IDPARM/ MJ (46)	SCNTRL 224
00198	COMMON /IDPARM/ NHMS1	SCNTRL 225
00199	COMMON /IDPARM/ NYMD1	SCNTRL 226
	C	SCNTRL 227
	C	SCNTRL 228
	C	SCNTRL 229
	C	SCNTRL 230
00200	COMMON /LDPARM/ FILTER (46)	SCNTRL 231
00201	COMMON /LDPARM/ ITAPE	SCNTRL 232
00202	COMMON /LDPARM/ START	SCNTRL 233
	C	SCNTRL 234
00203	LOGICAL FILTER	SCNTRL 235
00204	LOGICAL ITAPE	SCNTRL 236
00205	LOGICAL START	SCNTRL 237
	C	SCNTRL 238
	C	SCNTRL 239
	C	SCNTRL 240
	C	SCNTRL 241
00206	COMMON /RDPARM/ ADLDP	SCNTRL 242
00207	COMMON /RDPARM/ CON1	SCNTRL 243
00208	COMMON /RDPARM/ CON1DT	SCNTRL 244
00209	COMMON /RDPARM/ CON2	SCNTRL 245
00210	COMMON /RDPARM/ CON2DT	SCNTRL 246
00211	COMMON /RDPARM/ CON3	SCNTRL 247
00212	COMMON /RDPARM/ CON3DT	SCNTRL 248
00213	COMMON /RDPARM/ CON4	SCNTRL 249
00214	COMMON /RDPARM/ CON4DT	SCNTRL 250
00215	COMMON /RDPARM/ CON5	SCNTRL 251
00216	COMMON /RDPARM/ COSL (46)	SCNTRL 252
00217	COMMON /RDPARM/ COSLON (72)	SCNTRL 253
00218	COMMON /RDPARM/ CPD2	SCNTRL 254
00219	COMMON /RDPARM/ DXP (46)	SCNTRL 255
00220	COMMON /RDPARM/ DXYP (46)	SCNTRL 256
00221	COMMON /RDPARM/ DYP (46)	SCNTRL 257
00222	COMMON /RDPARM/ FCORLS (46)	SCNTRL 258
00223	COMMON /RDPARM/ F1DT	SCNTRL 259
00224	COMMON /RDPARM/ F2DT	SCNTRL 260
00225	COMMON /RDPARM/ H1DT	SCNTRL 261
00226	COMMON /RDPARM/ H2DT	SCNTRL 262
00227	COMMON /RDPARM/ PKSTD	SCNTRL 263
00228	COMMON /RDPARM/ PKTOP	SCNTRL 264
00229	COMMON /RDPARM/ RLAT (46)	SCNTRL 265
00230	COMMON /RDPARM/ RLATD (46)	SCNTRL 266
00231	COMMON /RDPARM/ ROCPDT	SCNTRL 267
00232	COMMON /RDPARM/ ROCPP1	SCNTRL 268
00233	COMMON /RDPARM/ SGNP (2)	SCNTRL 269
00234	COMMON /RDPARM/ SINL (46)	SCNTRL 270
00235	COMMON /RDPARM/ SINLON (72)	SCNTRL 271
00236	COMMON /RDPARM/ THSTD	SCNTRL 272
00237	COMMON /RDPARM/ THSTD2	
00238	COMMON /RDPARM/ WSAVE (159)	
00239	COMMON /RDPARM/ DSIG (9)	

00240 COMMON /RDPARM/ SIG (9)

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PHYSICS PARAMETERS AND CONSTANTS

00241 COMMON /CNTRL/ QDFR
00242 COMMON /CNTRL/ CDXL
00243 COMMON /CNTRL/ CDXO
00244 COMMON /CNTRL/ CLH
00245 COMMON /CNTRL/ COE (9)
00246 COMMON /CNTRL/ COEF
00247 COMMON /CNTRL/ COEFS
00248 COMMON /CNTRL/ COSROT
00249 COMMON /CNTRL/ CPP
00250 COMMON /CNTRL/ CTID
00251 COMMON /CNTRL/ CUMDAY
00252 COMMON /CNTRL/ CUMRAT
00253 COMMON /CNTRL/ C10
00254 COMMON /CNTRL/ C100
00255 COMMON /CNTRL/ C40
00256 COMMON /CNTRL/ DELTA
00257 COMMON /CNTRL/ DTC3
00258 COMMON /CNTRL/ DTOUT
00259 COMMON /CNTRL/ ED
00260 COMMON /CNTRL/ EDNM
00261 COMMON /CNTRL/ FCOEF
00262 COMMON /CNTRL/ FMU
00263 COMMON /CNTRL/ FWET
00264 COMMON /CNTRL/ GAMFAC
00265 COMMON /CNTRL/ GOPD
00266 COMMON /CNTRL/ HICE
00267 COMMON /CNTRL/ NDTG3
00268 COMMON /CNTRL/ NFLW
00269 COMMON /CNTRL/ PIM
00270 COMMON /CNTRL/ QHOG
00271 COMMON /CNTRL/ SHLTOP
00272 COMMON /CNTRL/ SINROT
00273 COMMON /CNTRL/ SNOWN
00274 COMMON /CNTRL/ SNOWS
00275 COMMON /CNTRL/ STBO
00276 COMMON /CNTRL/ STERP1
00277 COMMON /CNTRL/ STERP2
00278 COMMON /CNTRL/ TICE
00279 COMMON /CNTRL/ TLTOP
00280 COMMON /CNTRL/ XDAY
00281 COMMON /CNTRL/ ZLNCO
00282 LOGICAL QHOG

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RADIATION AND SOURCE TERM FIELDS

00283 COMMON /RADCOM/ AS(72,9), RE(72,10)
00284 COMMON /RADCOM/ PL(72,9), PLE(72,10)
00285 COMMON /RADCOM/ PLK(72,9), PLKE(10)
00286 COMMON /RADCOM/ TL(72,9), TLE(72,10)
00287 COMMON /RADCOM/ TG(72,9), TH(72,9)
00288 COMMON /RADCOM/ SHL(72,9), SHLE(72,10)
00289 COMMON /RADCOM/ SHG(72,9), CLOUD(72,12)
00290 COMMON /RADCOM/ SHSAT(72,9), GAM(72,9)
00291 COMMON /RADCOM/ RH(72,9)
00292 COMMON /RADCOM/ SSS(72,9), SSSE(72,10)
00293 COMMON /RADCOM/ HH(72,9), HHE(72,10)
00294 COMMON /RADCOM/ HHS(72,9)
00295 COMMON /RADCOM/ CVT(72,9), CVQ(72,9)
00296 COMMON /RADCOM/ CXDE(9)
00297 COMMON /RADCOM/ SWALE(72,10), SWIL(72,9)
00298 COMMON /RADCOM/ AL(72,10)
00299 COMMON /RADCOM/ TAU(72,10), OZALE(72,10)
00300 COMMON /RADCOM/ TOPABS(72)
00301 COMMON /RADCOM/ RN(9), TN(9), SRS(9), STN(9)
00302 COMMON /RADCOM/ TCOND(9), TPENE(9)
00303 COMMON /RADCOM/ TLOWL, TMIDL, NLAYOZ
00304 COMMON /RADCOM/ FK(5), XK(5), NFK

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C ***** FRACTIONAL AREA OF CLEAR SKY: FCLEAR *****SSOLAR1121
C ***** NOTE: IN CURRENT VERSION, IF CLOUDS EXISTS THEY ARE *****SSOLAR1122
C ***** ASSUMED TO OCCUPY THE ENTIRE GRID ELEMENT. *****SSOLAR1123
C ***** THUS, FOR A GRID ELEMENT CONTAINING CLOUDS, *****SSOLAR1124
C ***** WE HAVE: CLOUD(I,L) = 1.0 *****SSOLAR1125
C ***** FCLOUD(I,L) = 1.0 *****SSOLAR1126
C ***** FCLEAR(I,L) = 0.0 *****SSOLAR1127
C ***** *****SSOLAR1128
C ***** *****SSOLAR1129
C ***** DEFINE LOGICALS: *****SSOLAR1130
C ***** CLEAR: .TRUE. FOR GRID-POINTS CONTAINING NO CLOUDS *****SSOLAR1131
C ***** CLOUDY: .TRUE. FOR GRID-POINTS CONTAINING ANY CLOUDS *****SSOLAR1132
C ***** *****SSOLAR1133
C ***** *****SSOLAR1134
C ***** *****SSOLAR1135
00388 DO 1050 I=1,IM *****SSOLAR1136
00389 IF( DARK(I) ) GOTO 1050 *****SSOLAR1137
00390 FCLOUD(I) = 0.0 *****SSOLAR1138
00391 FCLEAR(I) = 1.0 *****SSOLAR1139
00392 NTOPT(I) = NLAYP1 *****SSOLAR1140
00393 NTOFF(I) = NLAYP1 *****SSOLAR1141
00394 1050 CONTINUE *****SSOLAR1142
C ***** *****SSOLAR1143
00395 DO 1060 I=1,IM *****SSOLAR1144
00396 IF( DARK(I) ) GO TO 1060 *****SSOLAR1145
00397 DO 140 L=2,NLAY *****SSOLAR1146
00398 XX = CLOUD(I,L) *****SSOLAR1147
00399 IF (XX.LT.0.01) GO TO 140 *****SSOLAR1148
00400 IF (XX.GT.0.99) GO TO 130 *****SSOLAR1149
00401 FC = AMAX1(XX,FCLOUD(I)) *****SSOLAR1150
00402 FCLOUD(I) = FC *****SSOLAR1151
00403 FCLEAR(I) = 1.0 - FCLOUD(I) *****SSOLAR1152
00404 IF (NTOFF(I).LT.NLAY) GO TO 140 *****SSOLAR1153
00405 NTOFF(I) = L *****SSOLAR1154
00406 *****SSOLAR1155
00407 130 CONTINUE *****SSOLAR1156
00408 IF (NTOPT(I).LT.NLAY) GO TO 140 *****SSOLAR1157
00409 NTOPT(I) = L *****SSOLAR1158
00410 FCLEAR(I) = 0.0 *****SSOLAR1159
00411 140 CONTINUE *****SSOLAR1160
00412 1060 CONTINUE *****SSOLAR1161
C ***** *****SSOLAR1162
00413 DO 1069 I=1,IM *****SSOLAR1163
00414 CLEAR(I) = FCLEAR(I) .GT. 0.99 *****SSOLAR1164
00415 CLOUDY(I) = FCLEAR(I) .LT. 0.01 *****SSOLAR1165
00416 1069 CONTINUE *****SSOLAR1166
C ***** *****SSOLAR1167
C ***** *****SSOLAR1168
C ***** *****SSOLAR1169
C ***** *****SSOLAR1170
C ***** *****SSOLAR1171
C ***** *****SSOLAR1172
C ***** *****SSOLAR1173
00417 DO 1070 I=1,IM *****SSOLAR1174
00418 IF( DARK(I) .OR. CLEAR(I) ) GOTO 1070 *****SSOLAR1175
00419 IF (FCLOUD(I).LT.0.01) FCLOUD(I)=1.00 *****SSOLAR1176
00420 1070 CONTINUE *****SSOLAR1177
C ***** *****SSOLAR1178
C ***** *****SSOLAR1179
C ***** *****SSOLAR1180
C ***** *****SSOLAR1181
C ***** *****SSOLAR1182
C ***** *****SSOLAR1183
C ***** *****SSOLAR1184
00421 DO 150 L=1,NLAY *****SSOLAR1185
00422 DO 1080 I=1,IM *****SSOLAR1186
00423 IF( DARK(I) .OR. CLEAR(I) ) GOTO 1080 *****SSOLAR1187
00424 *****SSOLAR1188
00425 IF (CLOUD(I,L).GT.0.99) TAU(I,L) = TCOND(L) *****SSOLAR1189
00426 1080 CONTINUE *****SSOLAR1190
00427 150 CONTINUE *****SSOLAR1191

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00445          W(I) = SWALE(I,1)*COSMAG(I)
00460          TEMP1(I,NLAY) = AWATER(W(I))
00461          TOPABS(I) = TEMP1(I,NLAY)
00462          1130 CONTINUE
C
00463          DO 1140 I=1,IM
00464          IF( DARK(I) .OR. CLOUDY(I) ) GOTO 1140
00465          LM1 = NLAY
00466          DO 210 L=1,NLAY
00467              LP1 = L+1
00468              W(I) = SWALE(I,LP1)*COSMAG(I)
00469              TEMP1(I,L) = AWATER(W(I))
00470              AL(I,L) = TEMP1(I,L) - TEMP1(I,LM1)
00471              LM1 = L
00472          210 CONTINUE
00473          1140 CONTINUE
C
00474          DO 1150 I=1,IM
00475          IF( DARK(I) .OR. CLOUDY(I) ) GOTO 1150
00476          TRANS = 1.0 - TEMP1(I,NLAY)
00477          RF = TRANS*RSURF(I)
00478          AL(I,NLAYP1) = (TRANS - 0.647)*(1.0 - RSURF(I))
C
00479          IF (RF.LT.0.001) GOTO 1150
C
00480          WW(I) = W(I)*(1.0 + 1.66/COSMAG(I))
00481          LM1 = NLAY
00482          DO 220 L=1,NLAY
00483          M = NLAYP1 - L
00484          W(I) = WW(I) - 1.66*SWALE(I,M)
00485          TEMP1(I,L) = AWATER(W(I))
00486          AL(I,M) = AL(I,M) + (TEMP1(I,L)-TEMP1(I,LM1))*RF
00487          LM1 = L
00488          220 CONTINUE
C
00489          1150 CONTINUE
C
00490          DO 1160 I=1,IM
00491          IF( DARK(I) .OR. CLOUDY(I) ) GOTO 1160
00492          ACLEAR(I) = FCLEAR(I)*SCOSZ(I)
00493          1160 CONTINUE
C
00494          DO 240 L=1,NLAY
00495          DO 1170 I=1,IM
00496          IF( DARK(I) .OR. CLOUDY(I) ) GOTO 1170
00497          AS(I,L) = ACLEAR(I)*AL(I,L)
00498          1170 CONTINUE
00499          240 CONTINUE
C
00500          DO 1180 I=1,IM
00501          IF( DARK(I) .OR. CLOUDY(I) ) GOTO 1180
00502          SG(I) = FCLEAR(I)*(FSCAT(I)*(1.0 - RCLEAR(I))
S              + SCOSZ(I)*AL(I,NLAYP1))
00503          RMEAN(I) = FCLEAR(I)*RCLEAR(I)
00504          TOTABS(I) = TOTABS(I) + ACLEAR(I)*TOPABS(I)
00505          1180 CONTINUE
C
C *****
C *****
C ***** ABSORPTION BY WATER VAPOR IN CLOUDY ATMOSPHERE *****
C *****
C *****
C
00506          DO 1190 I=1,IM
00507          IF( DARK(I) .OR. CLEAR(I) ) GOTO 1190
00508          NTOP(I) = MINO(NTOPT(I),NTOPF(I))
00509          1190 CONTINUE
C
00510          CALL CLOUDS (IM,NLAY,1)
C
00511          DO 1200 I=1,IM

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00512 IF( DARK(I) .OR. CLEAR(I) ) GOTO 1200
00513 ACLOUD(I) = FCLOUD(I)*SCOSZ(I)
00514 CONTINUE
C
00516 DO 260 L=1,NLAY
00516 DO 1210 I=1,IM
00517 IF( DARK(I) .OR. CLEAR(I) ) GOTO 1210
00518 AS(I,L) = AS(I,L) + ACLOUD(I)*AL(I,L)
00519 1210 CONTINUE
00520 260 CONTINUE
C
00521 DO 1220 I=1,IM
00522 IF( DARK(I) .OR. CLEAR(I) ) GOTO 1220
00523 SG(I) = SG(I) + FCLOUD(I) * (FSCAT(I)*(1.0 - RCLD(I))
S      + SCOSZ(I) * AL(I,NLAYP1))
00524 RMEAN(I) = RMEAN(I) + FCLOUD(I)*RCLD(I)
00525 TOTABS(I) = TOTABS(I) + ACLOUD(I)*TOPABS(I)
00526 1220 CONTINUE
C
00527 DO 1225 I=1,IM
00528 IF( DARK(I) .OR. CLEAR(I) ) GOTO 1225
00529 FCLD(I) = FCLOUD(I) .GT. 0.99
00530 1225 CONTINUE
C
00531 DO 1230 I=1,IM
00532 IF( DARK(I) .OR. CLEAR(I) ) GOTO 1230
00533 IF( FCLD(I) ) GOTO 1230
00534 NTOP(I) = NTOPT(I)
00535 FCLOUD(I) = 1.0 - FCLOUD(I)
00536 1230 CONTINUE
C
00537 DO 270 L=1,NLAY
00538 DO 1240 I=1,IM
00539 IF( DARK(I) .OR. CLEAR(I) ) GOTO 1240
00540 IF( FCLD(I) ) GOTO 1240
00541 IF( CLOUD(I,L) .LT. 0.99 ) TAUL(I,L)=0.0
00542 1240 CONTINUE
00543 270 CONTINUE
C
00544 CALL CLOUDS (IM,NLAY,2)
C
00545 DO 1250 I=1,IM
00546 IF( DARK(I) .OR. CLEAR(I) ) GOTO 1250
00547 IF( FCLD(I) ) GOTO 1250
00548 ACLOUD(I) = FCLOUD(I)*SCOSZ(I)
00549 1250 CONTINUE
C
00550 DO 280 L=1,NLAY
00551 DO 1260 I=1,IM
00552 IF( DARK(I) .OR. CLEAR(I) ) GOTO 1260
00553 IF( FCLD(I) ) GOTO 1260
00554 AS(I,L) = AS(I,L) + ACLOUD(I)*AL(I,L)
00555 1260 CONTINUE
00556 280 CONTINUE
C
00557 DO 1270 I=1,IM
00558 IF( DARK(I) .OR. CLEAR(I) ) GOTO 1270
00559 IF( FCLD(I) ) GOTO 1270
00560 SG(I) = SG(I) + FCLOUD(I)*(FSCAT(I)*(1.0 - RCLD(I))
S      + SCOSZ(I)*AL(I,NLAYP1))
00561 RMEAN(I) = RMEAN(I) + FCLOUD(I)*RCLD(I)
00562 TOTABS(I) = TOTABS(I) + ACLOUD(I)*TOPABS(I)
00563 1270 CONTINUE
C
C *****
C *****
C ***** EFFECTIVE CLEAR SKY RAYLEIGH ALBEDO FOR OZONE ABSORPTION *****
C *****
C *****
C
00564 DO 1280 I=1,IM

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SSOLAR1404

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00565      IF( DARK(I) .OR. .NOT.CLEAR(I) ) GOTO 1280
00566      RBROZ = 0.2186/(1.0+0.816*COSZ(I))
00567      RMEAN(I) = RBROZ * (1.0 - RBROZ)*.856*RSURF(I)
00568      S      /      (1.0 - .144*RSURF(I))
1280 CONTINUE

*****
ROUTINE PROVIDES OZONE CM ABOVE EACH LAYER EDGE
*****

00569      NLAYO1 = NLAYOZ + 1
00570      CALL OZONE2 (IM,NLAYO1,XDAY,XLAT)

*****
COMBINED UV+VIS OZONE ABSORPTION OF INCOMING SOLAR RADIATION
*****

00571      DO 1290 I=1,IM
00572      IF( DARK(I) ) GOTO 1290
C
00573      W(I) = OZALE(I,1)*COSMAG(I)
00574      TEMP1(I,NLAYOZ) = AOZONE(W(I))
00575      TOTABS(I) = TOTABS(I) + TEMP1(I,NLAYOZ)*SCOSZ(I) + SG(I)
C
00576      LM1 = NLAYOZ
00577      DO 310 L=1,NLAYOZ
00578      LPI = L+1
00579      W(I) = OZALE(I,LPI)*COSMAG(I)
00580      TEMP1(I,L) = AOZONE(W(I))
00581      AS(I,L) = AS(I,L) + (TEMP1(I,L) - TEMP1(I,LM1))*SCOSZ(I)
00582      LM1 = L
00583      310 CONTINUE
C
00584      WW(I) = W(I) + 1.90*W(I)/COSMAG(I)
C
00585      1290 CONTINUE

*****
COMBINED UV+VIS OZONE ABSORPTION OF REFLECTED SOLAR RADIATION
*****

00586      DO 1300 I=1,IM
00587      IF( DARK(I) ) GOTO 1300
C
00588      RF = SCOSZ(I)*RMEAN(I)
C
00589      LM1 = NLAYOZ
00590      DO 320 L=1,NLAYOZ
00591      M = NLAYO1 - L
00592      W(I) = WW(I) - 1.90*OZALE(I,M)
00593      TEMP1(I,L) = AOZONE(W(I))
00594      AS(I,M) = AS(I,M) + (TEMP1(I,L) - TEMP1(I,LM1))*RF
00595      LM1 = L
00596      320 CONTINUE
C
00597      1300 CONTINUE
C
00598      RETURN
00599      END

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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

1000	346	342
10000	338	

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1005	351	347	348
1010	355	352	
1020	369	362	363
1030	375	371	372
1040	387	376	377
1050	394	388	389
1060	412	395	396
1069	416	413	
1070	420	417	418
1080	426	422	423
1090	434	428	429
1100	441	435	436
1110	451	442	443
1120	456	452	453
1130	462	457	458
1140	473	463	464
1150	489	474	475
1160	493	490	491
1170	498	495	496
1180	505	500	501
1190	509	506	507
120	386	379	
1200	514	511	512
1210	519	516	517
1220	526	521	522
1225	530	527	528
1230	536	531	532
1240	542	538	539
1250	549	545	546
1260	555	551	552
1270	563	557	558
1280	568	564	565
1290	585	571	572
130	407	400	
1300	597	585	587
140	411	397	399
150	427	421	
180	450	447	
210	472	466	
220	488	482	
240	499	494	
260	520	515	
270	543	537	
280	556	550	
310	583	577	
320	596	590	
999	360	357	

VARIABLE MAP

---NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

ACLEAR	DSOLAR	REAL	ARRAY	325	492/S	497	504								
ACLOUD	DSOLAR	REAL	ARRAY	326	513/S	518	525	548/S	554	562					
ADATE	CONTRL	CHAR*8	SIMPLE	3	16										
ADLDP	RDPARM	REAL	SIMPLE	206											
AL	RADCOM	REAL	ARRAY	298	470/S	478/S	486/S	486	497	502	518	523	554	560	
APHEL	RCNTRL	REAL	SIMPLE	146											
AS	RADCOM	REAL	ARRAY	283	349/S	497/S	518/S	518	554/S	554	581/S	581	594/S	594	
ATIME	CONTRL	CHAR*8	SIMPLE	4	17										
BETA	RCNTRL	REAL	SIMPLE	147											
C10	CNTRLP	REAL	SIMPLE	253											
C100	CNTRLP	REAL	SIMPLE	254											
C40	CNTRLP	REAL	SIMPLE	255											
CALTOJ	RCNTRL	REAL	SIMPLE	185											
CC	CCNTRL	CHAR*8	ARRAY	14	15										
CCO	CCNTRL	CHAR*8	SIMPLE	2	14	15									
CCNTRL		REAL	UNKNOWN	2	3	4	5	6	7	8	9	10	11	12	
				13											
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20										
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21										

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OF POOR QUALITY

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EVAP	RADCOM	REAL	SIMPLE	308																
F1DT	RDPARM	REAL	SIMPLE	223																
F2DT	RDPARM	REAL	SIMPLE	224																
FC		REAL	SIMPLE	401/S	402															
FCOLD	DSOLAR	LOGICAL	ARRAY	334	335	529/S	533	540	547	553	559									
FCLEAR	DSOLAR	REAL	ARRAY	323	391/S	403/S	410/S	414	415	492	502	503								
FCLOUD	DSOLAR	REAL	ARRAY	322	390/S	401	402/S	403	419	419/S	513	523	524	529						
				535/S	535	548	560	561												
FCOEF	CNTRLP	REAL	SIMPLE	261																
FCORLS	RDPARM	REAL	ARRAY	222																
FILTER	LDPARM	LOGICAL	ARRAY	200	203															
FK	RADCOM	REAL	ARRAY	304																
FMU	CNTRLP	REAL	SIMPLE	262																
FROST	RADCOM	LOGICAL	ARRAY	313	314															
FSCAT	DSOLAR	REAL	ARRAY	319	368/S	502	523	560												
FWET	CNTRLP	REAL	SIMPLE	263																
GAM	RADCOM	REAL	ARRAY	290																
GAMFAC	CNTRLP	REAL	SIMPLE	264																
GNU1	RADCOM	REAL	SIMPLE	158																
GNU2	RCNTRL	REAL	SIMPLE	159																
GRAV	RCNTRL	REAL	SIMPLE	160																
GSTAR		REAL	SIMPLE	370/S	374															
GTOPO	CNTRLP	REAL	SIMPLE	265	370	382														
H1DT	RDPARM	REAL	SIMPLE	225																
H2DT	RDPARM	REAL	SIMPLE	226																
HACOS		REAL	SIMPLE	353/S	354															
HEATI	RCNTRL	REAL	SIMPLE	182																
HEATW	RCNTRL	REAL	SIMPLE	181																
HH	RADCOM	REAL	ARRAY	293																
HHE	RADCOM	REAL	ARRAY	293																
HHS	RADCOM	REAL	ARRAY	294																
HICE	CNTRLP	REAL	SIMPLE	266																
I		INTEGER	SIMPLE	342/C	343	344	345	348/C	349	350	352/C	353	353	354						
				357/C	358	358	359	362/C	363	364	365	366	366	367						
				367	368	368	371/C	372	373	374	374	374	376/C	377						
				381	381	382	382	382	382	383	383	383	384	384						
				384	388/C	389	390	391	392	393	395/C	396	398	401						
				402	403	403	404	405	408	409	410	413/C	414	414						
				415	415	417/C	418	419	419	419	422/C	423	423	424						
				425	425	428/C	429	430	433	433	435/C	436	436	437						
				440	442/C	443	443	444	448	452/C	453	453	454	455						
				455	455	457/C	458	458	459	459	459	460	460	461						
				461	463/C	464	464	468	468	468	469	469	470	470						
				470	474/C	475	475	476	477	478	478	480	480	480						
				484	484	484	485	485	486	486	486	486	490/C	491						
				491	492	492	492	495/C	496	496	497	497	497	500						
				501	501	502	502	502	502	502	502	503	503	503						
				504	504	504	504	506/C	507	507	508	508	508	511						
				512	512	513	513	513	516/C	517	517	518	518	518						
				518	521/C	522	522	523	523	523	523	523	523	523						
				524	524	524	524	525	525	525	525	525	528	528						
				529	529	531/C	532	532	533	534	534	535	535	535						
				539	539	540	541	541	545/C	546	546	547	548	548						
				548	551/C	552	552	553	554	554	554	554	557/C	558						
				558	559	560	560	560	560	560	560	560	561	561						
				561	561	562	562	562	562	564/C	565	565	566	567						
				567	567	571/C	572	573	573	573	574	574	575	575						
				575	575	575	579	579	579	580	580	581	581	581						
				581	581	584	584	584	584	584	586/C	587	588	588						
				592	592	593	593	594	594	594	594	594	594	594						
				90	91															
				25	90	91														
				312	314															
				25	26	27	28	29	30	31	32	33	34	35						
				36	37	38	39	40	41	42	43	44	45	46						
				47	48	49	50	51	52	53	54	55	56	57						
				58	59	60	61	62	63	64	65	66	67	68						
				69	70	71	72	73	74	75	76									
				66																
				68																
ICSP53	ICNTRL	INTEGER	SIMPLE	66																
ICSP55	ICNTRL	INTEGER	SIMPLE	68																
IC	ICNTRL	INTEGER	ARRAY	90																
ICO	ICNTRL	INTEGER	SIMPLE	25																
ICE	RADCOM	LOGICAL	ARRAY	312																
ICNTRL		INTEGER	UNKNOWN	25	26	27	28	29	30	31	32	33	34	35						
				36	37	38	39	40	41	42	43	44	45	46						
				47	48	49	50	51	52	53	54	55	56	57						
				58	59	60	61	62	63	64	65	66	67	68						
				69	70	71	72	73	74	75	76									
				66																
				68																

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IDLABAT	ICNTRL	INTEGER	UNKNOWN	88										
IDPARM		INTEGER	UNKNOWN	189	190	191	192	193	194	195	196	197	198	199
IDSP02	IDPARM	INTEGER	SIMPLE	190										
IEFLUX	ICNTRL	INTEGER	UNKNOWN	82										
IFUSION	ICNTRL	INTEGER	UNKNOWN	83										
IHFLUX	ICNTRL	INTEGER	UNKNOWN	81										
IGCLOUD	ICNTRL	INTEGER	UNKNOWN	86										
IJUMP	IDPARM	INTEGER	ARRAY	189										
IM	ICNTRL	INTEGER	SIMPLE	26	342	348	352	357	361	362	371	376	388	395
				413	417	422	428	435	442	452	457	463	474	490
				495	500	506	510	511	516	521	527	531	538	544
				545	551	557	564	570	571	586				
IMD2	ICNTRL	INTEGER	SIMPLE	27										
IMD2P1	ICNTRL	INTEGER	SIMPLE	28										
INDEX	IDPARM	INTEGER	ARRAY	191										
IOmega	ICNTRL	INTEGER	UNKNOWN	87										
IPREACC	ICNTRL	INTEGER	UNKNOWN	79										
IPRECON	ICNTRL	INTEGER	UNKNOWN	80										
IQS	ICNTRL	INTEGER	ARRAY	75	77	78	79	80	81	82	83	84	85	86
IQU	ICNTRL	INTEGER	ARRAY	76	87	88	89							
IRADLWG	ICNTRL	INTEGER	UNKNOWN	85										
IRADSW	ICNTRL	INTEGER	UNKNOWN	89										
IRADSWG	ICNTRL	INTEGER	UNKNOWN	84										
IROD	IDPARM	INTEGER	SIMPLE	192										
ITAPE	IDPARM	LOGICAL	SIMPLE	201	204									
ITMAX	ICNTRL	INTEGER	UNKNOWN	78										
ITMIN	ICNTRL	INTEGER	UNKNOWN	77										
J		INTEGER	SIMPLE	1	354	354								
JALB	RADCOM	INTEGER	SIMPLE	311										
JC	IDPARM	INTEGER	ARRAY	193										
JE	IDPARM	INTEGER	ARRAY	194										
JIC	CCNTRL	CHAR*8	SIMPLE	5	18									
JM	ICNTRL	INTEGER	SIMPLE	30										
JMD2	ICNTRL	INTEGER	SIMPLE	31										
JMT2	ICNTRL	INTEGER	SIMPLE	32										
JNP	ICNTRL	INTEGER	SIMPLE	33										
JO4	ICNTRL	INTEGER	SIMPLE	34										
JO8	ICNTRL	INTEGER	SIMPLE	35										
JOB	CCNTRL	CHAR*8	SIMPLE	6	19									
JP	IDPARM	INTEGER	ARRAY	195										
JSP	ICNTRL	INTEGER	SIMPLE	36										
KLIAB	ICNTRL	INTEGER	SIMPLE	37										
KLIW	ICNTRL	INTEGER	SIMPLE	38										
KLISST	ICNTRL	INTEGER	SIMPLE	39										
KS	ICNTRL	INTEGER	SIMPLE	40										
KSTEP	IDPARM	INTEGER	SIMPLE	196										
KU	ICNTRL	INTEGER	SIMPLE	41										
L		INTEGER	SIMPLE	347/C	349	350	379/C	380	381	382	382	382	383	384
				385	397/C	398	405	409	421/C	424	425	425	425	432
				433	439/S	440	446/S	448	448	449/S	449	466/C	467	469
				470	470	471	482/C	483	485	486	487	494/C	497	497
				515/C	518	518	518	537/C	541	541	550/C	554	554	554
				577/C	578	580	581	581	581	582	590/C	591	593	594
				595										
LAND	RADCOM	LOGICAL	ARRAY	312	314									
LC	LCNTRL	LOGICAL	ARRAY	143	144									
LCO	LCNTRL	LOGICAL	SIMPLE	92	143	144								
LCNTRL		INTEGER	UNKNOWN	92	93	94	95	96	97	98	99	100	101	102
				103	104									
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	116	141									
LDPARM		INTEGER	UNKNOWN	200	201	202								
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	110	135									
LFUSION	LCNTRL	LOGICAL	UNKNOWN	111	136									
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	109	134									
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	139									
LM1		INTEGER	SIMPLE	378/S	382	385/S	465/S	470	471/S	481/S	486	487/S	576/S	581
				582/S	589/S	594	595/S							
LOG8R	ICNTRL	INTEGER	SIMPLE	42										
LOmega	LCNTRL	LOGICAL	UNKNOWN	115	140									
LP1		INTEGER	SIMPLE	380/S	381	384	467/S	468	578/S	579				

LPREACC	LCNTRL	LOGICAL	UNKNOWN	107	132									
LPRECON	LCNTRL	LOGICAL	UNKNOWN	108	133									
LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114
				128										
LQU	LCNTRL	LOGICAL	ARRAY	104	115	116	117	129						
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138									
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	142									
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	112	137									
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131									
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130									
M		INTEGER	SIMPLE	483/S	484	486	486	591/S	592	594	594			
MATIN	ICNTRL	INTEGER	SIMPLE	43										
MATSNX	ICNTRL	INTEGER	SIMPLE	44										
MATSUN	ICNTRL	INTEGER	SIMPLE	45										
MIXWT	RADCOM	LOGICAL	ARRAY	313	314									
MJ	IDPARM	INTEGER	ARRAY	197										
MLF	ICNTRL	INTEGER	ARRAY	46										
MR0D	ICNTRL	INTEGER	SIMPLE	47										
MSM	ICNTRL	INTEGER	SIMPLE	49										
N		INTEGER	SIMPLE	447/C										
NAB		INTEGER	SIMPLE	430/S	431	432								
NAC		INTEGER	SIMPLE	444/S	445	446								
NB	ICNTRL	INTEGER	SIMPLE	50										
NBC		INTEGER	SIMPLE	437/S	438	439								
ND	ICNTRL	INTEGER	SIMPLE	51										
NDALT	ICNTRL	INTEGER	SIMPLE	52										
NDARK		INTEGER	SIMPLE	356/S	359/S	359	361							
NDAY	ICNTRL	INTEGER	SIMPLE	53										
NDHOG	ICNTRL	INTEGER	SIMPLE	74										
NDOUT	ICNTRL	INTEGER	SIMPLE	54										
NDPHY	ICNTRL	INTEGER	SIMPLE	55										
NDRSW	ICNTRL	INTEGER	SIMPLE	29										
NDSHF	ICNTRL	INTEGER	SIMPLE	56										
NDT	ICNTRL	INTEGER	SIMPLE	57										
NDTC3	CNTRLP	INTEGER	SIMPLE	267										
NFK	RADCOM	INTEGER	SIMPLE	304										
NFLW	CNTRLP	INTEGER	SIMPLE	268										
NHMS	ICNTRL	INTEGER	SIMPLE	58										
NHMS0	ICNTRL	INTEGER	SIMPLE	60										
NHMS1	IDPARM	INTEGER	SIMPLE	198										
NHMS2	ICNTRL	INTEGER	SIMPLE	59										
NKRSH	ICNTRL	INTEGER	SIMPLE	48										
NLAY	ICNTRL	INTEGER	SIMPLE	61	339	340	341	347	373	374	378	379	397	404
				408	421	460	461	465	466	476	481	482	494	510
				515	537	544	550							
				62										
NLAYM1	ICNTRL	INTEGER	SIMPLE	569/S	570	591								
NLAYO1		INTEGER	SIMPLE	303	569	574	575	576	577	589	590			
NLAYO2	RADCOM	INTEGER	SIMPLE	63	339/S	392	393	430	478	483	502	523	560	
NLAYP1	ICNTRL	INTEGER	SIMPLE	340/S	437									
NLAYP2		INTEGER	SIMPLE	341/S	444									
NLAYP3		INTEGER	SIMPLE	73										
NMLEV	ICNTRL	INTEGER	SIMPLE	307										
NOZ	RADCOM	INTEGER	SIMPLE	64										
NSDAY	ICNTRL	INTEGER	SIMPLE	65										
NSEQ	ICNTRL	INTEGER	SIMPLE	67										
NSTEP	ICNTRL	INTEGER	SIMPLE	330	508/S	534/S								
NTOP	DSOLAR	INTEGER	ARRAY	329	393/S	404	405/S	508						
NTOPF	DSOLAR	INTEGER	ARRAY	328	392/S	408	409/S	508	534					
NTOPT	DSOLAR	INTEGER	ARRAY	69										
NYMD	ICNTRL	INTEGER	SIMPLE	71										
NYMD0	ICNTRL	INTEGER	SIMPLE	199										
NYMD1	IDPARM	INTEGER	SIMPLE	70										
NYMDE	ICNTRL	INTEGER	SIMPLE	72										
NZINIT	ICNTRL	INTEGER	SIMPLE	312	314									
OCEAN	RADCOM	LOGICAL	ARRAY	306										
OCM22	RADCOM	REAL	ARRAY	306										
OCM30	RADCOM	REAL	ARRAY	306										
OCM38	RADCOM	REAL	ARRAY	306										
OCM46	RADCOM	REAL	ARRAY	306										

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SDAY	RCNTRL	REAL	SIMPLE	588															
SEASON	RCNTRL	REAL	SIMPLE	174															
SG	RADCOM	REAL	ARRAY	175															
SGNP	RDPARM	REAL	ARRAY	310	345/S	502/S	523/S	523	560/S	560	575								
SHG	RADCOM	REAL	ARRAY	233															
SHL	RADCOM	REAL	ARRAY	289															
SHLE	RADCOM	REAL	ARRAY	288	392														
SHLTOP	CNTRLP	REAL	SIMPLE	271	370														
SHSAT	RADCOM	REAL	ARRAY	290															
SIG	RDPARM	REAL	ARRAY	240															
SIGE	RCNTRL	REAL	ARRAY	176															
SIND	RCNTRL	REAL	SIMPLE	177	354														
SINL	RDPARM	REAL	ARRAY	234	354														
SINLON	RDPARM	REAL	ARRAY	235	353														
SINROT	CNTRLP	REAL	SIMPLE	272	353														
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125														
SNOW	RADCOM	LOGICAL	ARRAY	313	314														
SNOWN	CNTRLP	REAL	SIMPLE	273															
SNOWS	CNTRLP	REAL	SIMPLE	274															
SOLAR1			SUBROUTINE	1															
SOLS	RCNTRL	REAL	SIMPLE	178															
SP	RADCOM	REAL	ARRAY	310															
SRS	RADCOM	REAL	ARRAY	301															
SSS	RADCOM	REAL	ARRAY	292															
SSSE	RADCOM	REAL	ARRAY	292															
START	LDPARM	LOGICAL	SIMPLE	202	205														
STBO	CNTRLP	REAL	SIMPLE	275															
STERP1	CNTRLP	REAL	SIMPLE	276															
STERP2	CNTRLP	REAL	SIMPLE	277															
STN	RADCOM	REAL	ARRAY	301															
SWALE	RADCOM	REAL	ARRAY	297	374/S	384/S	384	459	468	484									
SWIL	RADCOM	REAL	ARRAY	297	383/S														
TAUL	RADCOM	REAL	ARRAY	299	424/S	425/S	433/S	440/S	448/S	541/S									
TCOND	RADCOM	REAL	ARRAY	302	425														
TEMP1	DSOLAR	REAL	ARRAY	321	350/S	373/S	374	381/S	382	382	460/S	461	469/S	470					
				470	476	485/S	486	486	574/S	575	580/S	581	581	593					
				594	594														
TG	RADCOM	REAL	ARRAY	287															
TH	RADCOM	REAL	ARRAY	287															
THSTD	RDPARM	REAL	SIMPLE	236															
THSTD2	RDPARM	REAL	SIMPLE	237															
TICE	CNTRLP	REAL	SIMPLE	278															
TL	RADCOM	REAL	ARRAY	286	382														
TLE	RADCOM	REAL	ARRAY	286															
TLOWL	RADCOM	REAL	SIMPLE	303	433														
TLTOP	CNTRLP	REAL	SIMPLE	279	370														
TMIDL	RADCOM	REAL	SIMPLE	303	440														
TN	RADCOM	REAL	ARRAY	301															
TOPABS	RADCOM	REAL	ARRAY	300	461/S	504	525	562											
TOTABS	DSOLAR	REAL	ARRAY	316	365/S	504/S	504	525/S	525	562/S	562	575/S	575						
TOTOZ	RADCOM	REAL	ARRAY	307															
TPENE	RADCOM	REAL	ARRAY	302	448														
TRANS		REAL	SIMPLE	476/S	477	478													
TSTD	RCNTRL	REAL	SIMPLE	179															
VER	CCNTRL	CHAR*8	SIMPLE	10	23														
W	DSOLAR	REAL	ARRAY	324	343/S	382/S	383	384	459/S	460	468/S	469	480	484					
				485	573/S	574	579/S	580	584	584	592/S	593							
WET	RADCOM	REAL	ARRAY	308															
WI	RADCOM	REAL	ARRAY	308															
WSAVE	RDPARM	REAL	ARRAY	238															
WW	DSOLAR	REAL	ARRAY	327	344/S	480/S	484	584/S	592										
X		REAL	SIMPLE	336	336	336	336	337	337	337	337	337	337	337	337	337	337	337	337
				337															
XDAY	CNTRLP	REAL	SIMPLE	280	570														
XK	RADCOM	REAL	ARRAY	304															
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24														
XLAT		REAL	SIMPLE	1	570														
XX		REAL	SIMPLE	398/S	399	400	401												
ZLNCO	CNTRLP	REAL	SIMPLE	281															

PROCEDURE MAP

NAME	TYPE	CLASS	REFERENCES	D=STMT	FN DEF	A=ARGLIST
AMAX1	REAL	INTRINSIC	401			
AOZONE	REAL	STAT FUNC	337/S	574	580	593
AWATER	REAL	STAT FUNC	336/S	460	469	485
CLOUDS		SUBROUTINE	510	544		
MINO	INTEGER	INTRINSIC	508			
OZONE2		SUBROUTINE	570			
SORT	REAL	INTRINSIC	366	370	382	

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00001 SUBROUTINE STRATM (T1,T2, IDAYH, ILATH) SSTRATM 2
00002 DIMENSION TDAY(37,2), TJAN(19,2), TAPR(19,2), TJUL(19,2), TOCT(19,2) SSTRATM 3
00003 DATA IOLD/0/ SSTRATM 4
00004 DATA TJAN/ 269.00, 269.00, 268.00, 266.00, 265.00, 263.00, 262.00, SSTRATM 5
* 261.00, 260.00, 260.00, 250.00, 250.00, 250.00, 250.00, SSTRATM 6
* 253.00, 253.00, 253.00, 253.00, 242.50, 242.50, 242.50, 242.50, SSTRATM 7
* 242.50, 242.00, 240.50, 238.50, 237.00, 235.00, 232.00, 230.00, SSTRATM 8
* 228.00, 226.00, 224.50, 223.00, 222.50, 222.50, 222.50/ SSTRATM 9
00005 DATA TAPR/ 270.00, 270.00, 270.00, 270.00, 270.00, 270.00, 270.00, SSTRATM 10
* 270.00, 270.00, 270.00, 267.00, 264.00, 263.00, 262.00, 260.00, SSTRATM 11
* 259.00, 257.00, 256.00, 255.00, 246.00, 246.00, 246.00, 246.00, SSTRATM 12
* 246.50, 246.50, 246.50, 246.00, 245.50, 245.00, 245.00, 245.00, SSTRATM 13
* 244.00, 243.50, 243.00, 242.50, 242.00, 242.00, 242.00/ SSTRATM 14
00006 DATA TJUL/ 267.00, 266.00, 265.00, 265.00, 265.00, 270.00, 272.00, SSTRATM 15
* 273.00, 275.00, 277.00, 277.00, 280.00, 280.00, 280.00, 280.00, SSTRATM 16
* 280.00, 280.00, 280.00, 280.00, 242.00, 242.00, 242.00, 242.00, SSTRATM 17
* 242.50, 243.00, 244.00, 245.50, 247.50, 249.00, 251.00, 253.00, SSTRATM 18
* 255.00, 256.00, 257.50, 258.00, 259.00, 259.50, 260.00/ SSTRATM 19
00007 DATA TOCT/ 267.00, 266.00, 265.00, 263.00, 263.00, 262.00, 260.00, SSTRATM 20
* 258.00, 255.00, 253.00, 252.00, 247.00, 245.00, 243.00, 240.00, SSTRATM 21
* 236.00, 234.00, 232.00, 231.00, 247.00, 247.00, 247.00, 247.00, SSTRATM 22
* 245.00, 243.00, 241.00, 239.00, 237.00, 235.50, 233.00, 231.00, SSTRATM 23
* 229.00, 227.50, 226.00, 224.00, 223.00, 222.00, 222.00/ SSTRATM 24
C *** INTRODUCE CLIMATOLOGICAL TEMPERATURES IN UPPER ATMOSPHERE SSTRATM 25
C DATA SSTRATM 26
C * I, ILAT, JDAYH, TDAY/77*Z000000000/ SSTRATM 27
C CALL ERRSET(207,256,-1,1,0,209) SSTRATM 28
C SSTRATM 29
C SSTRATM 30
00008 IF (IDAYH.EQ.IOLD) GO TO 113 SSTRATM 31
C *** TIME INTERPOLATION NORTHERN HEMISPHERE SSTRATM 32
C *** I=19=EQUATOR, I=37=NORTH POLE SSTRATM 33
IF (IDAYH.GE.0.AND.IDAYH.LE.15) GO TO 102 SSTRATM 34
IF (IDAYH.GE.15.AND.IDAYH.LE.106) GO TO 104 SSTRATM 35
IF (IDAYH.GE.106.AND.IDAYH.LE.197) GO TO 106 SSTRATM 36
IF (IDAYH.GE.197.AND.IDAYH.LE.289) GO TO 108 SSTRATM 37
IF (IDAYH.GE.289.AND.IDAYH.LE.366) GO TO 110 SSTRATM 38
102 DO 103 I=19,37 SSTRATM 39
I1=I-18 SSTRATM 40
DO 103 J = 1,2 SSTRATM 41
103 TDAY(I,J)=TOCT(I1,J)+(IDAYH-77)*(TJAN(I1,J)-TOCT(I1,J))/92 SSTRATM 42
GO TO 112 SSTRATM 43
104 DO 105 I=19,37 SSTRATM 44
I1=I-18 SSTRATM 45
DO 105 J = 1,2 SSTRATM 46
105 TDAY(I,J)=TJAN(I1,J)+(IDAYH-15)*(TAPR(I1,J)-TJAN(I1,J))/91 SSTRATM 47
GO TO 112 SSTRATM 48
106 DO 107 I=19,37 SSTRATM 49
I1=I-18 SSTRATM 50
DO 107 J=1,2 SSTRATM 51
107 TDAY(I,J)=TAPR(I1,J)+(IDAYH-106)*(TJUL(I1,J)-TAPR(I1,J))/91 SSTRATM 52
GO TO 112 SSTRATM 53
108 DO 109 I=19,37 SSTRATM 54
I1=I-18 SSTRATM 55
DO 109 J=1,2 SSTRATM 56
109 TDAY(I,J)=TJUL(I1,J)+(IDAYH-197)*(TOCT(I1,J)-TJUL(I1,J))/92 SSTRATM 57
GO TO 112 SSTRATM 58
110 DO 111 I=19,37 SSTRATM 59
I1=I-18 SSTRATM 60
DO 111 J=1,2 SSTRATM 61
111 TDAY(I,J)=TOCT(I1,J)-(IDAYH-289)*(TJAN(I1,J)-TOCT(I1,J))/92 SSTRATM 62
112 CONTINUE SSTRATM 63
C *** TIME INTERPOLATION SOUTHERN HEMISPHERE SSTRATM 64
C *** I=1=SOUTH POLE, I=18=5 DEGREE SOUTH SSTRATM 65
IF (IDAYH.LE.183) GO TO 115 SSTRATM 66
114 JDAYH=IDAYH-183 SSTRATM 67
GO TO 116 SSTRATM 68
115 JDAYH=IDAYH+183 SSTRATM 69
116 CONTINUE SSTRATM 70
IF (JDAYH.GE.0.AND.JDAYH.LE.15) GO TO 202 SSTRATM 71
SSTRATM 72

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SSTRATM 73
SSTRATM 74
SSTRATM 75
SSTRATM 76
SSTRATM 77
SSTRATM 78
SSTRATM 79
SSTRATM 80
SSTRATM 81
SSTRATM 82
SSTRATM 83
SSTRATM 84
SSTRATM 85
SSTRATM 86
SSTRATM 87
SSTRATM 88
SSTRATM 89
SSTRATM 90
SSTRATM 91
SSTRATM 92
SSTRATM 93
SSTRATM 94
SSTRATM 95
SSTRATM 96
SSTRATM 97
SSTRATM 98
SSTRATM 99
SSTRATM100
SSTRATM101
SSTRATM102
SSTRATM103
SSTRATM104
SSTRATM105
SSTRATM106
SSTRATM107
SSTRATM108

102	14	9			
103	17	14	16		
104	19	10			
105	22	19	21		
106	24	11			
107	27	24	26		
108	29	12			
109	32	29	31		
110	34	13			
111	37	34	36		
112	38	18	23	28	33
113	75	8			
114	40				
115	42	39			
116	43	41			
202	49	44			
203	52	49	51		
204	54	45			
205	57	54	56		
206	59	46			
207	62	59	61		
208	64	47			
209	67	64	66		
210	69	48			
211	72	59	71		
212	73	53	58	63	68

Y	INTEGER	SIMPLE	14	15	17	19	20	22	24	25	27	29	30
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I1	INTEGER	SIMPLE	32 60 15/S	34 62 17	35 64 17	37 65 17	49 67 20/S	50 69 22	52 70 22	54 72 22	55 25/S	57 27	59 27
IDAYH	INTEGER	SIMPLE	27 52 67	30/S 52 67	32 55/S 67	32 57 70/S	32 57 72	35/S 57 72	37 60/S 72	37 62 72	37 62 62	50/S 62 62	52 65 65
ILAT	INTEGER	SIMPLE	1 13	8 17	9 22	9 27	10 32	10 37	11 39	11 40	12 42	12 74	13
ILATH	INTEGER	SIMPLE	1 76/S	76 77	78								
IOLD	INTEGER	SIMPLE	3/I	8	74/S								
J	INTEGER	SIMPLE	16 27 37 57 67	17 27 37 57 71	17 27 37 61 72	17 27 51 62 72	17 31 52 62 72	21 32 52 62 72	22 32 52 66 72	22 32 52 66 72	22 32 56 67 72	22 36 57 67 72	26 37 57 67 72
JDAYH	INTEGER	SIMPLE	40/S 48	42/S 52	44 57	44 62	45 67	45 72	46 72	46 72	47 72	47 72	48
STRATM		SUBROUTINE	1	77/S									
T1	REAL	SIMPLE	1	78/S									
T2	REAL	SIMPLE	1	5/I	22	27	27	57	62	62	62/S	67/S	72
TAPR	REAL	ARRAY	2	17/S	22/S	27/S	32/S	37/S	52/S	57/S	62/S	67/S	72
TDAY	REAL	ARRAY	77	78									
TJAN	REAL	ARRAY	2	4/I	17	22	22	37	52	57	57	72	
TJUL	REAL	ARRAY	2	6/I	27	32	32	62	67	67	52	67	72
TOCT	REAL	ARRAY	2 72	7/I	17	17	32	37	37	52	52	67	72

C-6

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STRATM 3

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00001 SUBROUTINE TIMAVG (J)
C-----
C PURPOSE
C TIME FILTER DIFFERENTIAL FIELDS USING NEW BASE FIELDS AND
C SAVED BASED FIELDS FOR LEAPFROG STEP.
C CALLED BY MAIN (COMPO) ONLY
C-----
C USAGE
C AVERAGES THE 4TH-ORDER MODEL VALUES OVER THREE TIME STEPS :
C   QS(N) = Q(N) + NU*(QS(N-1)/2 + Q(N) + Q(N+1))/2
C   WHERE 0<NU<1. IF NU1 = 1-NU AND NU2 = NU/2, THEN
C   QS(N) = NU1*Q(N) + NU2*(QS(N-1) + Q(N+1)).
C-----
C ARGUMENTS DESCRIPTION
C J LATITUDE BAND NUMBER
C-----
C SUBPROGRAMS NEEDED
C NAME DESCRIPTION
C NONE
C-----
C RECORD OF MODIFICATIONS
C BASED ON OLD VERSION 8.
C
C ?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS?
C 05/04/83 RAMESH THIS PART AND COMMENTS
C-----
C REMARKS:
C (1) ?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.?
C-----
C M / A - C O M S I G M A D A T A I N C . N A S A - G S F C
C-----
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C-----
00002 COMMON /CCNTRL/ CCO
00003 COMMON /CCNTRL/ ADATE
00004 COMMON /CCNTRL/ ATIME
00005 COMMON /CCNTRL/ JIC
00006 COMMON /CCNTRL/ JOB
00007 COMMON /CCNTRL/ CCSP06
00008 COMMON /CCNTRL/ CCSP07
00009 COMMON /CCNTRL/ CCSP08
00010 COMMON /CCNTRL/ VER
00011 COMMON /CCNTRL/ XLABEL (10)
00012 COMMON /CCNTRL/ CQS (30)
00013 COMMON /CCNTRL/ CQU (10)
C
00014 EQUIVALENCE (CC0,CC(1))
00015 CHARACTER*8 CCO, CC(200)
00016 CHARACTER*8 ADATE
00017 CHARACTER*8 ATIME
00018 CHARACTER*8 JIC
00019 CHARACTER*8 JOB
00020 CHARACTER*8 CCSP06
00021 CHARACTER*8 CCSP07
00022 CHARACTER*8 CCSP08
00023 CHARACTER*8 VER
00024 CHARACTER*8 XLABEL
C
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C-----
00025 COMMON /ICNTRL/ ICO
00026 COMMON /ICNTRL/ IM
00027 COMMON /ICNTRL/ IMD2
00028 COMMON /ICNTRL/ IMD2P1
00029 COMMON /ICNTRL/ NDRSW
00030 COMMON /ICNTRL/ JM
00031 COMMON /ICNTRL/ JMD2
00032 COMMON /ICNTRL/ JMT2
00033 COMMON /ICNTRL/ JNP

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TIMAVG 2
TIMAVG 3
TIMAVG 4
TIMAVG 5
TIMAVG 6
TIMAVG 7
TIMAVG 8
TIMAVG 9
TIMAVG 10
TIMAVG 11
TIMAVG 12
TIMAVG 13
TIMAVG 14
TIMAVG 15
TIMAVG 16
TIMAVG 17
TIMAVG 18
TIMAVG 19
TIMAVG 20
TIMAVG 21
TIMAVG 22
TIMAVG 23
TIMAVG 24
TIMAVG 25
TIMAVG 26
TIMAVG 27
TIMAVG 28
TIMAVG 29
TIMAVG 30
TIMAVG 31
TIMAVG 32
TIMAVG 33
SCNTRL 2
SCNTRL 3
SCNTRL 4
SCNTRL 5
SCNTRL 6
SCNTRL 7
SCNTRL 8
SCNTRL 9
SCNTRL 10
SCNTRL 11
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SCNTRL 39
SCNTRL 40

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TIMAVG 1

00034	COMMON /ICNTRL/ JO4	SCNTRL 41
00035	COMMON /ICNTRL/ JO8	SCNTRL 42
00036	COMMON /ICNTRL/ JSP	SCNTRL 43
00037	COMMON /ICNTRL/ KLIALB	SCNTRL 44
00038	COMMON /ICNTRL/ KLIGW	SCNTRL 45
00039	COMMON /ICNTRL/ KLISST	SCNTRL 46
00040	COMMON /ICNTRL/ KS	SCNTRL 47
00041	COMMON /ICNTRL/ KU	SCNTRL 48
00042	COMMON /ICNTRL/ LOGBR	SCNTRL 49
00043	COMMON /ICNTRL/ MATIN	SCNTRL 50
00044	COMMON /ICNTRL/ MATSNX	SCNTRL 51
00045	COMMON /ICNTRL/ MATSUN	SCNTRL 52
00046	COMMON /ICNTRL/ MLF (12)	SCNTRL 53
00047	COMMON /ICNTRL/ MR0D	SCNTRL 54
00048	COMMON /ICNTRL/ NKRSR	SCNTRL 55
00049	COMMON /ICNTRL/ MSM	SCNTRL 56
00050	COMMON /ICNTRL/ NB	SCNTRL 57
00051	COMMON /ICNTRL/ ND	SCNTRL 58
00052	COMMON /ICNTRL/ NDALT	SCNTRL 59
00053	COMMON /ICNTRL/ NDAY	SCNTRL 60
00054	COMMON /ICNTRL/ NDOUT	SCNTRL 61
00055	COMMON /ICNTRL/ NDPHY	SCNTRL 62
00056	COMMON /ICNTRL/ NDSHF	SCNTRL 63
00057	COMMON /ICNTRL/ NDT	SCNTRL 64
00058	COMMON /ICNTRL/ NHMS	SCNTRL 65
00059	COMMON /ICNTRL/ NHMSE	SCNTRL 66
00060	COMMON /ICNTRL/ NHMSO	SCNTRL 67
00061	COMMON /ICNTRL/ NLAY	SCNTRL 68
00062	COMMON /ICNTRL/ NLAYM1	SCNTRL 69
00063	COMMON /ICNTRL/ NLAYP1	SCNTRL 70
00064	COMMON /ICNTRL/ NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
		SCNTRL 84
00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 85
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 86
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 87
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 88
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 89
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 91
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 92
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 93
00086	EQUIVALENCE (IICLOUD ,IQS(10))	SCNTRL 94
		SCNTRL 95
00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 96
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 97
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 98
		SCNTRL 99
00090	EQUIVALENCE (ICO,IC(1))	SCNTRL 100
00091	INTEGER ICO, IC(200)	SCNTRL 101
		SCNTRL 102
		SCNTRL 103
		SCNTRL 104
		SCNTRL 105
00092	COMMON /LCNTRL/ LCO	SCNTRL 106
00093	COMMON /LCNTRL/ QALT	SCNTRL 107
00094	COMMON /LCNTRL/ QBEG	SCNTRL 108
00095	COMMON /LCNTRL/ QDAY	SCNTRL 109
00096	COMMON /LCNTRL/ QEND	SCNTRL 110
00097	COMMON /LCNTRL/ QOUT	SCNTRL 111
00098	COMMON /LCNTRL/ QPHY	

LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD
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00099	COMMON /LCNTRL/	QSHF	SCNTRL 112
00100	COMMON /LCNTRL/	SN2FLG	SCNTRL 113
00101	COMMON /LCNTRL/	QRSW	SCNTRL 114
00102	COMMON /LCNTRL/	QRSH	SCNTRL 115
00103	COMMON /LCNTRL/	LQS(30)	SCNTRL 116
00104	COMMON /LCNTRL/	LQU(10)	SCNTRL 117
C			SCNTRL 118
00105	EQUIVALENCE	(LTMIN .LQS(1))	SCNTRL 119
00106	EQUIVALENCE	(LTMAX .LQS(2))	SCNTRL 120
00107	EQUIVALENCE	(LPREACC .LQS(3))	SCNTRL 121
00108	EQUIVALENCE	(LPRECON .LQS(4))	SCNTRL 122
00109	EQUIVALENCE	(LHFLUX .LQS(5))	SCNTRL 123
00110	EQUIVALENCE	(LEFLUX .LQS(6))	SCNTRL 124
00111	EQUIVALENCE	(LFUSION .LQS(7))	SCNTRL 125
00112	EQUIVALENCE	(LRADSWG .LQS(8))	SCNTRL 126
00113	EQUIVALENCE	(LRADLWG .LQS(9))	SCNTRL 127
00114	EQUIVALENCE	(LICLOUD .LQS(10))	SCNTRL 128
C			SCNTRL 129
00115	EQUIVALENCE	(LOMEGA .LQU(1))	SCNTRL 130
00116	EQUIVALENCE	(LDIABAT .LQU(2))	SCNTRL 131
00117	EQUIVALENCE	(LRADSW .LQU(3))	SCNTRL 132
C			SCNTRL 133
00118	LOGICAL	QALT	SCNTRL 134
00119	LOGICAL	QBEG	SCNTRL 135
00120	LOGICAL	QDAY	SCNTRL 136
00121	LOGICAL	QEND	SCNTRL 137
00122	LOGICAL	QOUT	SCNTRL 138
00123	LOGICAL	QPHY	SCNTRL 139
00124	LOGICAL	QSHF	SCNTRL 140
00125	LOGICAL	SN2FLG	SCNTRL 141
00126	LOGICAL	QRSW	SCNTRL 142
00127	LOGICAL	QRSH	SCNTRL 143
C			SCNTRL 144
00128	LOGICAL	LQS	SCNTRL 145
00129	LOGICAL	LQU	SCNTRL 146
00130	LOGICAL	LTMIN	SCNTRL 147
00131	LOGICAL	LTMAX	SCNTRL 148
00132	LOGICAL	LPREACC	SCNTRL 149
00133	LOGICAL	LPRECON	SCNTRL 150
00134	LOGICAL	LHFLUX	SCNTRL 151
00135	LOGICAL	LEFLUX	SCNTRL 152
00136	LOGICAL	LFUSION	SCNTRL 153
00137	LOGICAL	LRADSWG	SCNTRL 154
00138	LOGICAL	LRADLWG	SCNTRL 155
00139	LOGICAL	LICLOUD	SCNTRL 156
C			SCNTRL 157
00140	LOGICAL	LOMEGA	SCNTRL 158
00141	LOGICAL	LDIABAT	SCNTRL 159
00142	LOGICAL	LRADSW	SCNTRL 160
C			SCNTRL 161
00143	EQUIVALENCE	(LC0,LC(1))	SCNTRL 162
00144	LOGICAL	LC0, LC(200)	SCNTRL 163
C			SCNTRL 164
O	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD		SCNTRL 165
	*****		SCNTRL 166
00145	COMMON /RCNTRL/	RC0	SCNTRL 167
00146	COMMON /RCNTRL/	APHEL	SCNTRL 168
00147	COMMON /RCNTRL/	BETA	SCNTRL 169
00148	COMMON /RCNTRL/	QOSD	SCNTRL 170
00149	COMMON /RCNTRL/	CP	SCNTRL 171
00150	COMMON /RCNTRL/	DAYSPLY	SCNTRL 172
00151	COMMON /RCNTRL/	DEC	SCNTRL 173
00152	COMMON /RCNTRL/	DECMAX	SCNTRL 174
00153	COMMON /RCNTRL/	DIST	SCNTRL 175
00154	COMMON /RCNTRL/	DLAT	SCNTRL 176
00155	COMMON /RCNTRL/	DLOD	SCNTRL 177
00156	COMMON /RCNTRL/	DT	SCNTRL 178
00157	COMMON /RCNTRL/	ECCN	SCNTRL 179
00158	COMMON /RCNTRL/	GNU1	SCNTRL 180
00159	COMMON /RCNTRL/	GNU2	SCNTRL 181
00160	COMMON /RCNTRL/	GRAV	SCNTRL 182

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00161 COMMON /RCNTRL/ OMEGA2
00162 COMMON /RCNTRL/ PI
00163 COMMON /RCNTRL/ PI180
00164 COMMON /RCNTRL/ PI2
00165 COMMON /RCNTRL/ PSTD
00166 COMMON /RCNTRL/ PIMEAN
00167 COMMON /RCNTRL/ PSMAX
00168 COMMON /RCNTRL/ PSMIN
00169 COMMON /RCNTRL/ PTOP
00170 COMMON /RCNTRL/ RADE
00171 COMMON /RCNTRL/ RGAS
00172 COMMON /RCNTRL/ ROCP
00173 COMMON /RCNTRL/ RSDIST
00174 COMMON /RCNTRL/ SDAY
00175 COMMON /RCNTRL/ SEASON
00176 COMMON /RCNTRL/ SIGE (25)
00177 COMMON /RCNTRL/ SIND
00178 COMMON /RCNTRL/ SOLS
00179 COMMON /RCNTRL/ TSTD
00180 COMMON /RCNTRL/ PLEVS (25)
00181 COMMON /RCNTRL/ HEATW
00182 COMMON /RCNTRL/ HEATI
00183 COMMON /RCNTRL/ EPS
00184 COMMON /RCNTRL/ EPSFAC
00185 COMMON /RCNTRL/ CALTOJ
00186 COMMON /RCNTRL/ PZERO

C
00187 EQUIVALENCE (RCO,RC(1))
00188 REAL RCO, RC(200)

C
C INTEGER MODEL CONSTANTS
C =====
00189 COMMON /IDPARM/ IJUMP (46)
00190 COMMON /IDPARM/ IDSP02
00191 COMMON /IDPARM/ INDEX (72)
00192 COMMON /IDPARM/ IROD
00193 COMMON /IDPARM/ JC (46)
00194 COMMON /IDPARM/ JE (2)
00195 COMMON /IDPARM/ JP (2,2)
00196 COMMON /IDPARM/ KSTEP
00197 COMMON /IDPARM/ MJ (46)
00198 COMMON /IDPARM/ NHMS1
00199 COMMON /IDPARM/ NYMD1

C
C LOGICAL MODEL CONSTANTS
C =====
00200 COMMON /LDPARM/ FILTER (46)
00201 COMMON /LDPARM/ ITAPE
00202 COMMON /LDPARM/ START

C
00203 LOGICAL FILTER
00204 LOGICAL ITAPE
00205 LOGICAL START

C
C REAL MODEL CONSTANTS
C =====
00206 COMMON /RDPARM/ ADLDP
00207 COMMON /RDPARM/ CON1
00208 COMMON /RDPARM/ CON1DT
00209 COMMON /RDPARM/ CON2
00210 COMMON /RDPARM/ CON2DT
00211 COMMON /RDPARM/ CON3
00212 COMMON /RDPARM/ CON3DT
00213 COMMON /RDPARM/ CON4
00214 COMMON /RDPARM/ CON4DT
00215 COMMON /RDPARM/ CON5
00216 COMMON /RDPARM/ COSL (46)
00217 COMMON /RDPARM/ COSLON (72)
00218 COMMON /RDPARM/ CPD2
00219 COMMON /RDPARM/ DXP (46)
00220 COMMON /RDPARM/ DXYP (46)

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00221 COMMON /RDPARM/ DYP (46)
 00222 COMMON /RDPARM/ FCORLS (46)
 00223 COMMON /RDPARM/ F1DT
 00224 COMMON /RDPARM/ F2DT
 00225 COMMON /RDPARM/ H1DT
 00226 COMMON /RDPARM/ H2DT
 00227 COMMON /RDPARM/ PKSTD
 00228 COMMON /RDPARM/ PKTOP
 00229 COMMON /RDPARM/ RLAT (46)
 00230 COMMON /RDPARM/ RLATD (46)
 00231 COMMON /RDPARM/ ROC PDT
 00232 COMMON /RDPARM/ ROCP P1
 00233 COMMON /RDPARM/ SGNP (2)
 00234 COMMON /RDPARM/ SINL (46)
 00235 COMMON /RDPARM/ SINLON (72)
 00236 COMMON /RDPARM/ THSTD
 00237 COMMON /RDPARM/ THSTD2
 00238 COMMON /RDPARM/ WSAVE (159)
 00239 COMMON /RDPARM/ DSIG (9)
 00240 COMMON /RDPARM/ SIG (9)

CCC

GLOBAL MODEL SURFACE FIELDS
 COMMON /QANDQT/ QS(72,19,46)

00241

C

00242 DIMENSION PHIS(1368,1)
 00243 DIMENSION SMTH(1368,23)
 00244 DIMENSION ALBEDO(1368,1)
 00245 DIMENSION GT(1368,1)
 00246 DIMENSION GW(1368,1)
 00247 DIMENSION TS(1368,1)
 00248 DIMENSION SHS(1368,1)
 00249 DIMENSION P(72,19,1)
 00250 DIMENSION TMIN(1368,1)
 00251 DIMENSION TMAX(1368,1)
 00252 DIMENSION PREACC(1368,1)
 00253 DIMENSION PRECON(1368,1)
 00254 DIMENSION HFLUX(1368,1)
 00255 DIMENSION EFLUX(1368,1)
 00256 DIMENSION FUSION(1368,1)
 00257 DIMENSION RADSWG(1368,1)
 00258 DIMENSION RADLWG(1368,1)
 00259 DIMENSION ICLOUD(1368,1)

C

00260 EQUIVALENCE (QS(1,1,1),PHIS(1,1))
 00261 EQUIVALENCE (QS(1,2,1),SMTH(1,1))
 00262 EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))
 00263 EQUIVALENCE (QS(1,4,1),GT(1,1))
 00264 EQUIVALENCE (QS(1,5,1),GW(1,1))
 00265 EQUIVALENCE (QS(1,6,1),TS(1,1))
 00266 EQUIVALENCE (QS(1,7,1),SHS(1,1))
 00267 EQUIVALENCE (QS(1,8,1),P(1,1,1))
 00268 EQUIVALENCE (QS(1,10,1),TMIN(1,1))
 00269 EQUIVALENCE (QS(1,11,1),TMAX(1,1))
 00270 EQUIVALENCE (QS(1,12,1),PREACC(1,1))
 00271 EQUIVALENCE (QS(1,13,1),PRECON(1,1))
 00272 EQUIVALENCE (QS(1,14,1),HFLUX(1,1))
 00273 EQUIVALENCE (QS(1,15,1),EFLUX(1,1))
 00274 EQUIVALENCE (QS(1,16,1),FUSION(1,1))
 00275 EQUIVALENCE (QS(1,17,1),RADSWG(1,1))
 00276 EQUIVALENCE (QS(1,18,1),RADLWG(1,1))
 00277 EQUIVALENCE (QS(1,19,1),ICLOUD(1,1))

C

GLOBAL MODEL UPPER-AIR FIELDS
 COMMON /QANDQT/ QU(72,9,14,46)

00278

C

00279 DIMENSION U(72,9,14,1)
 00280 DIMENSION V(72,9,14,1)
 00281 DIMENSION T(72,9,14,1)
 00282 DIMENSION SH(72,9,14,1)
 00283 DIMENSION PHI(72,9,14,1)

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 SQANDQT 51

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TIMEVG 5


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00327      P(I,ND,J) = GNU1*P(I,ND,J) + GNU2*(PM(I,K)+P(I,NB,J))
00328      60      CONTINUE
00329      DO 70 L=1,NLAY
00330      DO 70 I=1,IM
00331      U(I,L,ND,J) = GNU1*U(I,L,ND,J) + GNU2*(UM(I,L,K)+U(I,L,NB,J))
00332      V(I,L,ND,J) = GNU1*V(I,L,ND,J) + GNU2*(VM(I,L,K)+V(I,L,NB,J))
00333      T(I,L,ND,J) = GNU1*T(I,L,ND,J) + GNU2*(TM(I,L,K)+T(I,L,NB,J))
00334      SH(I,L,ND,J) = GNU1*SH(I,L,ND,J) + GNU2*(SHM(I,L,K)+SH(I,L,NB,J))
00335      70      CONTINUE
00336      RETURN
00337      END

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STIMAVG 67
STIMAVG 68
STIMAVG 69
STIMAVG 70
STIMAVG 71
STIMAVG 72
STIMAVG 73
STIMAVG 74
STIMAVG 75
STIMAVG 76
STIMAVG 77

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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10	323	318
10000	313	
50	325	316
60	328	326
70	335	329 330

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES	A	C	I	R	S	W
ADATE	CCNTRL	CHAR*8	SIMPLE	3	16					
ADLDP	RDPARM	REAL	SIMPLE	206						
ALBEDO	QANDQT	REAL	ARRAY	244	262					
APHEL	RCNTRL	REAL	SIMPLE	146						
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17					
BETA	RCNTRL	REAL	SIMPLE	147						
CALTOJ	RCNTRL	REAL	SIMPLE	185						
CC	CCNTRL	CHAR*8	ARRAY	14	15					
CCO	CCNTRL	CHAR*8	SIMPLE	2	14	15				
CCNTRL	CCNTRL	REAL	UNKNOWN	2	3	4	5	6	7	8
				13						9
CCSP06	CCNTRL	CHAR*8	SIMPLE	7	20					10
CCSP07	CCNTRL	CHAR*8	SIMPLE	8	21					11
CCSP08	CCNTRL	CHAR*8	SIMPLE	9	22					12
CON1	RDPARM	REAL	SIMPLE	207						
CON1DT	RDPARM	REAL	SIMPLE	208						
CON2	RDPARM	REAL	SIMPLE	209						
CON2DT	RDPARM	REAL	SIMPLE	210						
CON3	RDPARM	REAL	SIMPLE	211						
CON3DT	RDPARM	REAL	SIMPLE	212						
CON4	RDPARM	REAL	SIMPLE	213						
CON4DT	RDPARM	REAL	SIMPLE	214						
CON5	RDPARM	REAL	SIMPLE	215						
CONV	QMSAVE	REAL	ARRAY	311						
COSD	RCNTRL	REAL	SIMPLE	148						
COSL	RDPARM	REAL	ARRAY	216						
QOSLON	RDPARM	REAL	ARRAY	217						
CP	RCNTRL	REAL	SIMPLE	149						
CPD2	RDPARM	REAL	SIMPLE	218						
QQS	CCNTRL	REAL	ARRAY	12						
QQU	CCNTRL	REAL	ARRAY	13						
DAYSPLY	RCNTRL	REAL	SIMPLE	150						
DEC	RCNTRL	REAL	SIMPLE	151						
DECMAX	RCNTRL	REAL	SIMPLE	152						
DIABAT	QANDQT	REAL	ARRAY	285	294					
DIST	RCNTRL	REAL	SIMPLE	153						
DLAT	RCNTRL	REAL	SIMPLE	154						
DLON	RCNTRL	REAL	SIMPLE	155						
DSIG	RDPARM	REAL	ARRAY	239						
DT	RCNTRL	REAL	SIMPLE	156						
DXP	RDPARM	REAL	ARRAY	219						
DXYP	RDPARM	REAL	ARRAY	220						
DYP	RDPARM	REAL	ARRAY	221						
ECON	RCNTRL	REAL	SIMPLE	157						
EFLUX	QANDQT	REAL	ARRAY	255	273					
EPS	RCNTRL	REAL	SIMPLE	183						

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EPSFAC	RCNTRL	REAL	SIMPLE	184										
F1DT	RDPARM	REAL	SIMPLE	223										
F2DT	RDPARM	REAL	SIMPLE	224										
FCORLS	RDPARM	REAL	ARRAY	222										
FILTER	LDPARM	LOGICAL	ARRAY	200	203									
FUSION	QANDQT	REAL	ARRAY	256	274									
GNU1	RCNTRL	REAL	SIMPLE	158	317	319	320	321	322	327	331	332	333	334
GNU2	RCNTRL	REAL	SIMPLE	159	317	319	320	321	322	327	331	332	333	334
GRAV	RCNTRL	REAL	SIMPLE	160										
GT	QANDQT	REAL	ARRAY	245	263									
GW	QANDQT	REAL	ARRAY	246	264									
H1DT	RDPARM	REAL	SIMPLE	225										
H2DT	RDPARM	REAL	SIMPLE	226										
HEATI	RCNTRL	REAL	SIMPLE	182										
HEATW	RCNTRL	REAL	SIMPLE	181										
HFLUX	QANDQT	REAL	ARRAY	254	272									
I		INTEGER	SIMPLE	326/C	327	327	327	327	330/C	331	331	331	331	332
				332	332	332	333	333	333	333	334	334	334	334
IC	ICNTRL	INTEGER	ARRAY	90	91									
ICO	ICNTRL	INTEGER	SIMPLE	25	90	91								
ICLOUD	QANDQT	INTEGER	ARRAY	259	277									
ICNTRL		INTEGER	UNKNOWN	25	26	27	28	29	30	31	32	33	34	35
				36	37	38	39	40	41	42	43	44	45	46
				47	48	49	50	51	52	53	54	55	56	57
				58	59	60	61	62	63	64	65	66	67	68
				69	70	71	72	73	74	75	76			
ICSP53	ICNTRL	INTEGER	SIMPLE	66										
ICSP55	ICNTRL	INTEGER	SIMPLE	68										
ID1ABAT	ICNTRL	INTEGER	UNKNOWN	88										
IDPARM		INTEGER	UNKNOWN	189	190	191	192	193	194	195	196	197	198	199
IDSP02	IDPARM	INTEGER	SIMPLE	190										
IEFLUX	ICNTRL	INTEGER	UNKNOWN	82										
IFUSION	ICNTRL	INTEGER	UNKNOWN	83										
IHFLUX	ICNTRL	INTEGER	UNKNOWN	81										
ICLOUD	ICNTRL	INTEGER	UNKNOWN	86										
IJUMP	IDPARM	INTEGER	ARRAY	189										
IM	ICNTRL	INTEGER	SIMPLE	26	326	330								
IMD2	ICNTRL	INTEGER	SIMPLE	27										
IMD2P1	ICNTRL	INTEGER	SIMPLE	28										
INDEX	IDPARM	INTEGER	ARRAY	191										
IONEGA	ICNTRL	INTEGER	UNKNOWN	87										
IPREACC	ICNTRL	INTEGER	UNKNOWN	79										
IPRECON	ICNTRL	INTEGER	UNKNOWN	80										
IQS	ICNTRL	INTEGER	ARRAY	75	77	78	79	80	81	82	83	84	85	86
IQU	ICNTRL	INTEGER	ARRAY	76	87	88	89							
IRADLWG	ICNTRL	INTEGER	UNKNOWN	85										
IRADSW	ICNTRL	INTEGER	UNKNOWN	89										
IRADSWG	ICNTRL	INTEGER	UNKNOWN	84										
IROD	IDPARM	INTEGER	SIMPLE	192										
ITAPE	LDPARM	LOGICAL	SIMPLE	201	204									
ITMAX	ICNTRL	INTEGER	UNKNOWN	78										
ITMIN	ICNTRL	INTEGER	UNKNOWN	77										
J		INTEGER	SIMPLE	1	314	315	327	327	327	331	331	331	332	332
				332	333	333	333	334	334	334				
JC	IDPARM	INTEGER	ARRAY	193	315									
JE	IDPARM	INTEGER	ARRAY	194										
JIC	CCNTRL	CHAR*8	SIMPLE	5	18									
JM	ICNTRL	INTEGER	SIMPLE	30										
JMD2	ICNTRL	INTEGER	SIMPLE	31										
JMT2	ICNTRL	INTEGER	SIMPLE	32										
JNP	ICNTRL	INTEGER	SIMPLE	33										
JO4	ICNTRL	INTEGER	SIMPLE	34										
JOB	ICNTRL	INTEGER	SIMPLE	35										
JOB	CCNTRL	CHAR*8	SIMPLE	6	19									
JP	IDPARM	INTEGER	ARRAY	195										
JSP	ICNTRL	INTEGER	SIMPLE	36										
K		INTEGER	SIMPLE	315/S	317	319	320	321	322	327	331	332	333	334
KLIALB	ICNTRL	INTEGER	SIMPLE	37										
KLIGW	ICNTRL	INTEGER	SIMPLE	38										
KLISST	ICNTRL	INTEGER	SIMPLE	39										

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KS	ICNTRL	INTEGER	SIMPLE	40											
KSTEP	IDPARM	INTEGER	SIMPLE	196											
KU	ICNTRL	INTEGER	SIMPLE	41											
L		INTEGER	SIMPLE	318/C	319	319	319	319	319	320	320	320	320	321	321
				321	321	322	322	322	322	322	329/C	331	331	331	331
				332	332	332	332	333	333	333	333	333	334	334	334
				334											
LC	LCNTRL	LOGICAL	ARRAY	143	144										
LC0	LCNTRL	LOGICAL	SIMPLE	92	143	144									
LCNTRL		INTEGER	UNKNOWN	92	93	94	95	95	97	98	99	100	101	102	
				103	104										
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	116	141										
LDPARM		INTEGER	UNKNOWN	200	201	202									
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	110	135										
LFUSION	LCNTRL	LOGICAL	UNKNOWN	111	136										
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	109	134										
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	139										
LOGSR	ICNTRL	INTEGER	SIMPLE	42											
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	115	140										
LPREACC	LCNTRL	LOGICAL	UNKNOWN	107	132										
LPRECON	LCNTRL	LOGICAL	UNKNOWN	108	133										
LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114	
				128											
LQU	LCNTRL	LOGICAL	ARRAY	104	115	116	117	129							
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138										
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	142										
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	112	137										
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131										
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130										
M		INTEGER	SIMPLE	314/S	316	317	317	317	319	319	319	320	320	320	
				321	321	321	322	322	322						
MATIN	ICNTRL	INTEGER	SIMPLE	43											
MATSNX	ICNTRL	INTEGER	SIMPLE	44											
MATSUN	ICNTRL	INTEGER	SIMPLE	45											
MJ	IDPARM	INTEGER	ARRAY	197	314										
MLF	ICNTRL	INTEGER	ARRAY	46											
MROD	ICNTRL	INTEGER	SIMPLE	47											
MSM	ICNTRL	INTEGER	SIMPLE	49											
NB	ICNTRL	INTEGER	SIMPLE	50	317	319	320	321	322	327	331	332	333	334	334
ND	ICNTRL	INTEGER	SIMPLE	51	317	317	319	319	320	320	321	321	322	322	322
				327	327	331	331	332	332	333	333	334	334	334	334
NDALT	ICNTRL	INTEGER	SIMPLE	52											
NDAY	ICNTRL	INTEGER	SIMPLE	53											
NDHOG	ICNTRL	INTEGER	SIMPLE	74											
NDOUT	ICNTRL	INTEGER	SIMPLE	54											
NDPHY	ICNTRL	INTEGER	SIMPLE	55											
NDRSW	ICNTRL	INTEGER	SIMPLE	29											
NDSHF	ICNTRL	INTEGER	SIMPLE	56											
NDT	ICNTRL	INTEGER	SIMPLE	57											
NHMS	ICNTRL	INTEGER	SIMPLE	58											
NHMS0	ICNTRL	INTEGER	SIMPLE	60											
NHMS1	IDPARM	INTEGER	SIMPLE	198											
NHMS2	ICNTRL	INTEGER	SIMPLE	59											
NKRSH	ICNTRL	INTEGER	SIMPLE	48											
NLAY	ICNTRL	INTEGER	SIMPLE	61	318	329									
NLAYM1	ICNTRL	INTEGER	SIMPLE	62											
NLAYP1	ICNTRL	INTEGER	SIMPLE	63											
NMLEV	ICNTRL	INTEGER	SIMPLE	73											
NSDAY	ICNTRL	INTEGER	SIMPLE	64											
NSEQ	ICNTRL	INTEGER	SIMPLE	65											
NSTEP	ICNTRL	INTEGER	SIMPLE	67											
NYMD	ICNTRL	INTEGER	SIMPLE	69											
NYMD0	ICNTRL	INTEGER	SIMPLE	71											
NYMD1	IDPARM	INTEGER	SIMPLE	199											
NYMDE	ICNTRL	INTEGER	SIMPLE	70											
NZINIT	ICNTRL	INTEGER	SIMPLE	72											
OMEGA	QANDQT	REAL	ARRAY	284	293										
OMEGA2	RCNTRL	REAL	SIMPLE	161											
P	QANDQT	REAL	ARRAY	249	267	327/S	327	327							
PHI	QANDQT	REAL	ARRAY	283	292										

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PHIM	QMSAVE	REAL	ARRAY	308																												
PHIP	QPOLES	REAL	ARRAY	302																												
PHIS	QANDQT	REAL	ARRAY	242	260																											
PI	RCNTRL	REAL	SIMPLE	162																												
PI180	RCNTRL	REAL	SIMPLE	163																												
PI2	RCNTRL	REAL	SIMPLE	164																												
PIMEAN	RCNTRL	REAL	SIMPLE	166																												
PIT	QMSAVE	REAL	ARRAY	310																												
PKSTD	RDPAARM	REAL	SIMPLE	227																												
PKTOP	RDPAARM	REAL	SIMPLE	228																												
PLEVS	RCNTRL	REAL	ARRAY	180																												
PM	QMSAVE	REAL	ARRAY	303	317	327																										
PP	QPOLES	REAL	ARRAY	297	317/S	317	317																									
PREACC	QANDQT	REAL	ARRAY	252	270																											
PRECON	QANDQT	REAL	ARRAY	253	271																											
PSMAX	RCNTRL	REAL	SIMPLE	167																												
PSMIN	RCNTRL	REAL	SIMPLE	168																												
PSTD	RCNTRL	REAL	SIMPLE	165																												
PTOP	RCNTRL	REAL	SIMPLE	169																												
PV	QMSAVE	REAL	ARRAY	309																												
PZERO	RCNTRL	REAL	SIMPLE	186																												
QALT	LCNTRL	LOGICAL	SIMPLE	93	118																											
QANDQT	REAL	UNKNOWN		241	278																											
QBEG	LCNTRL	LOGICAL	SIMPLE	94	119																											
QDAY	LCNTRL	LOGICAL	SIMPLE	95	120																											
QEND	LCNTRL	LOGICAL	SIMPLE	96	121																											
QMSAVE	REAL	UNKNOWN		303	304	305	306	307	308	309	310	311	312																			
QOUT	LCNTRL	LOGICAL	SIMPLE	97	122																											
QPHY	LCNTRL	LOGICAL	SIMPLE	98	123																											
QPOLES	REAL	UNKNOWN		297	298	299	300	301	302																							
QRSH	LCNTRL	LOGICAL	SIMPLE	102	127																											
QRSW	LCNTRL	LOGICAL	SIMPLE	101	126																											
QS	QANDQT	REAL	ARRAY	241	260	261	262	263	264	265	266	267	268	269																		
				270	271	272	273	274	275	276	277																					
QSHF	LCNTRL	LOGICAL	SIMPLE	99	124																											
QU	QANDQT	REAL	ARRAY	278	288	289	290	291	292	293	294	295	296																			
RADE	RCNTRL	REAL	SIMPLE	170																												
RADLW	QANDQT	REAL	ARRAY	287	296																											
RADLWG	QANDQT	REAL	ARRAY	258	276																											
RADSW	QANDQT	REAL	ARRAY	286	295																											
RADSWG	QANDQT	REAL	ARRAY	257	275																											
RC	RCNTRL	REAL	ARRAY	187	188																											
RCO	RCNTRL	REAL	SIMPLE	145	187	188																										
RCNTRL	REAL	UNKNOWN		145	146	147	148	149	150	151	152	153	154	155																		
				156	157	158	159	160	161	162	163	164	165	166																		
				167	168	169	170	171	172	173	174	175	176	177																		
				178	179	180	181	182	183	184	185	186																				
RDPAARM	REAL	UNKNOWN		206	207	208	209	210	211	212	213	214	215	216																		
				217	218	219	220	221	222	223	224	225	226	227																		
				228	229	230	231	232	233	234	235	236	237	238																		
				239	240																											
				171																												
RGAS	RCNTRL	REAL	SIMPLE																													
RLAT	RDPAARM	REAL	ARRAY	229																												
RLATD	RDPAARM	REAL	ARRAY	230																												
ROCP	RCNTRL	REAL	SIMPLE	172																												
ROCPDT	RDPAARM	REAL	SIMPLE	231																												
ROCPF1	RDPAARM	REAL	SIMPLE	232																												
RSDIST	RCNTRL	REAL	SIMPLE	173																												
SD	QMSAVE	REAL	ARRAY	311																												
SDAY	RCNTRL	REAL	SIMPLE	174																												
SEASON	RCNTRL	REAL	SIMPLE	175																												
SGNP	RDPAARM	REAL	ARRAY	233																												
SH	QANDQT	REAL	ARRAY	282	291	334/S	334	334																								
SHM	QMSAVE	REAL	ARRAY	307	322	334																										
SHP	QPOLES	REAL	ARRAY	301	322/S	322	322																									
SHS	QANDQT	REAL	ARRAY	248	266																											
SIG	RDPAARM	REAL	ARRAY	240																												
SIGE	RCNTRL	REAL	ARRAY	176																												
SIND	RCNTRL	REAL	SIMPLE	177																												
SINL	RDPAARM	REAL	ARRAY	234																												

SINLON	RDPARM	REAL	ARRAY	235				
SMTH	QANDQT	REAL	ARRAY	243	261			
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125			
SOLS	RCNTRL	REAL	SIMPLE	178				
START	LDPARM	LOGICAL	SIMPLE	202	205			
T	QANDQT	REAL	ARRAY	281	290	333/S	333	333
TERMT	QMSAVE	REAL	ARRAY	312				
TERMW	QMSAVE	REAL	ARRAY	312				
THSTD	RDPARM	REAL	SIMPLE	236				
THSTD2	RDPARM	REAL	SIMPLE	237				
TIMAVG			SUBROUTINE	1				
TM	QMSAVE	REAL	ARRAY	306	321	333		
TMAX	QANDQT	REAL	ARRAY	251	269			
TMIN	QANDQT	REAL	ARRAY	250	268			
TP	QPOLES	REAL	ARRAY	300	321/S	321	321	
TS	QANDQT	REAL	ARRAY	247	265			
TSTD	RCNTRL	REAL	SIMPLE	179				
U	QANDQT	REAL	ARRAY	279	288	331/S	331	331
UM	QMSAVE	REAL	ARRAY	304	319	331		
UP	QPOLES	REAL	ARRAY	298	319/S	319	319	
V	QANDQT	REAL	ARRAY	280	289	332/S	332	332
VER	CCNTRL	CHAR*8	SIMPLE	10	23			
VM	QMSAVE	REAL	ARRAY	305	320	332		
VP	QPOLES	REAL	ARRAY	299	320/S	320	320	
WSAVE	RDPARM	REAL	ARRAY	238				
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24			

00001

SUBROUTINE TWRITE (LFLAG, *, *)

PURPOSE

WRITE MODEL HISTORY RECORD AND REINITIALIZE DIAGNOSTICS.
CALLED BY MAIN (GWSGCM) ONLY

USAGE

ARGUMENTS

DESCRIPTION
LFLAG
RECORD TYPE FLAG
-1 FOR BEFORE ANALYSIS RECORD
-2 FOR MID-MATSUNO RECORD
0 FOR NORMAL HISTORY RECORD
6 FOR SENSE SWITCHED RECORD
END-OF-DISK REACHED
I/O ERROR RETURN

I/O DDNAME

DESCRIPTION
8 HISTORY RECORD OUTPUT

SUBPROGRAMS NEEDED

NONE

RECORD OF MODIFICATIONS

BASED ON OLD VERSION 8.

7DATE? 7PROGRAMMER? 7DESCRIPTION OF MODIFICATIONS?
05/17/83 RAMESH THIS PART AND COMMENTS

REMARKS:

(1) 7MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.

M / A - C O M S I G M A D A T A I N C . N A S A - G S F C

CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD

COMMON /CCNTRL/ CCO
COMMON /CCNTRL/ ADATE
COMMON /CCNTRL/ ATIME
COMMON /CCNTRL/ JIC
COMMON /CCNTRL/ JOB
COMMON /CCNTRL/ CCSP06
COMMON /CCNTRL/ CCSP07
COMMON /CCNTRL/ CCSP08
COMMON /CCNTRL/ VER
COMMON /CCNTRL/ XLABEL (10)
COMMON /CCNTRL/ CQS (30)
COMMON /CCNTRL/ CQU (10)

EQUIVALENCE (CCO,CC(1))
CHARACTER*8 CCO, CC(200)
CHARACTER*8 ADATE
CHARACTER*8 ATIME
CHARACTER*8 JIC
CHARACTER*8 JOB
CHARACTER*8 CCSP06
CHARACTER*8 CCSP07
CHARACTER*8 CCSP08
CHARACTER*8 VER
CHARACTER*8 XLABEL

INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD

COMMON /ICNTRL/ ICO
COMMON /ICNTRL/ IM
COMMON /ICNTRL/ IMD2
COMMON /ICNTRL/ IMD2P1
COMMON /ICNTRL/ NDRSW
COMMON /ICNTRL/ JM

STWRITE 2

STWRITE 3

STWRITE 4

STWRITE 5

STWRITE 6

STWRITE 7

STWRITE 8

STWRITE 9

STWRITE 10

STWRITE 11

STWRITE 12

STWRITE 13

STWRITE 14

STWRITE 15

STWRITE 16

STWRITE 17

STWRITE 18

STWRITE 19

STWRITE 20

STWRITE 21

STWRITE 22

STWRITE 23

STWRITE 24

STWRITE 25

STWRITE 26

STWRITE 27

STWRITE 28

STWRITE 29

STWRITE 30

STWRITE 31

STWRITE 32

STWRITE 33

STWRITE 34

STWRITE 35

STWRITE 36

SCNTRL 2

SCNTRL 3

SCNTRL 4

SCNTRL 5

SCNTRL 6

SCNTRL 7

SCNTRL 8

SCNTRL 9

SCNTRL 10

SCNTRL 11

SCNTRL 12

SCNTRL 13

SCNTRL 14

SCNTRL 15

SCNTRL 16

SCNTRL 17

SCNTRL 18

SCNTRL 19

SCNTRL 20

SCNTRL 21

SCNTRL 22

SCNTRL 23

SCNTRL 24

SCNTRL 25

SCNTRL 26

SCNTRL 27

SCNTRL 28

SCNTRL 29

SCNTRL 30

SCNTRL 31

SCNTRL 32

SCNTRL 33

SCNTRL 34

SCNTRL 35

SCNTRL 36

SCNTRL 37

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00031	COMMON /ICNTRL/ JMD2	SCNTRL 38
00032	COMMON /ICNTRL/ JMT2	SCNTRL 39
00033	COMMON /ICNTRL/ JNP	SCNTRL 40
00034	COMMON /ICNTRL/ JO4	SCNTRL 41
00035	COMMON /ICNTRL/ JOB	SCNTRL 42
00036	COMMON /ICNTRL/ JSP	SCNTRL 43
00037	COMMON /ICNTRL/ KLIALB	SCNTRL 44
00038	COMMON /ICNTRL/ KLIW	SCNTRL 45
00039	COMMON /ICNTRL/ KLISST	SCNTRL 46
00040	COMMON /ICNTRL/ KS	SCNTRL 47
00041	COMMON /ICNTRL/ KU	SCNTRL 48
00042	COMMON /ICNTRL/ LOGSR	SCNTRL 49
00043	COMMON /ICNTRL/ MATIN	SCNTRL 50
00044	COMMON /ICNTRL/ MATSNX	SCNTRL 51
00045	COMMON /ICNTRL/ MATSUN	SCNTRL 52
00046	COMMON /ICNTRL/ MLF (12)	SCNTRL 53
00047	COMMON /ICNTRL/ MRD	SCNTRL 54
00048	COMMON /ICNTRL/ NKRSR	SCNTRL 55
00049	COMMON /ICNTRL/ MSM	SCNTRL 56
00050	COMMON /ICNTRL/ NB	SCNTRL 57
00051	COMMON /ICNTRL/ ND	SCNTRL 58
00052	COMMON /ICNTRL/ NDALT	SCNTRL 59
00053	COMMON /ICNTRL/ NDAY	SCNTRL 60
00054	COMMON /ICNTRL/ NDOUT	SCNTRL 61
00055	COMMON /ICNTRL/ NDPHY	SCNTRL 62
00056	COMMON /ICNTRL/ NDSHF	SCNTRL 63
00057	COMMON /ICNTRL/ NDT	SCNTRL 64
00058	COMMON /ICNTRL/ NHMS	SCNTRL 65
00059	COMMON /ICNTRL/ NHMSE	SCNTRL 66
00060	COMMON /ICNTRL/ NHMSO	SCNTRL 67
00061	COMMON /ICNTRL/ NLAY	SCNTRL 68
00062	COMMON /ICNTRL/ NLAYM1	SCNTRL 69
00063	COMMON /ICNTRL/ NLAYP1	SCNTRL 70
00064	COMMON /ICNTRL/ NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
C		SCNTRL 84
00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 85
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 86
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 87
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 88
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 89
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 90
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 91
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 92
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 93
00086	EQUIVALENCE (IICLOUD ,IQS(10))	SCNTRL 94
C		SCNTRL 95
00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 96
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 97
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 98
C		SCNTRL 99
00090	EQUIVALENCE (ICO ,IC(1))	SCNTRL 100
00091	INTEGER ICO , IC(200)	SCNTRL 101
C		SCNTRL 102
C	LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL 103
C	=====	SCNTRL 104
00092	COMMON /LCNTRL/ LCO	SCNTRL 105
00093	COMMON /LCNTRL/ QALT	SCNTRL 106
00094	COMMON /LCNTRL/ QBEG	SCNTRL 107
00095	COMMON /LCNTRL/ QDAY	SCNTRL 108


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00096 COMMON /LCNTRL/ QEND
00097 COMMON /LCNTRL/ QOUT
00098 COMMON /LCNTRL/ QPHY
00099 COMMON /LCNTRL/ QSHF
00100 COMMON /LCNTRL/ SN2FLG
00101 COMMON /LCNTRL/ QRSW
00102 COMMON /LCNTRL/ QRSW
00103 COMMON /LCNTRL/ LQS(30)
00104 COMMON /LCNTRL/ LQU(10)

C
00105 EQUIVALENCE (LTMIN ,LQS( 1))
00106 EQUIVALENCE (LTMAX ,LQS( 2))
00107 EQUIVALENCE (LPREACC ,LQS( 3))
00108 EQUIVALENCE (LPRECON ,LQS( 4))
00109 EQUIVALENCE (LHFLUX ,LQS( 5))
00110 EQUIVALENCE (LEFLUX ,LQS( 6))
00111 EQUIVALENCE (LFUSION ,LQS( 7))
00112 EQUIVALENCE (LRADSWG ,LQS( 8))
00113 EQUIVALENCE (LRADLWG ,LQS( 9))
00114 EQUIVALENCE (LICLOUD ,LQS(10))

C
00115 EQUIVALENCE (LOMEGA ,LQU( 1))
00116 EQUIVALENCE (LDIABAT ,LQU( 2))
00117 EQUIVALENCE (LRADSW ,LQU( 3))

C
00118 LOGICAL QALT
00119 LOGICAL QBEG
00120 LOGICAL QDAY
00121 LOGICAL QEND
00122 LOGICAL QOUT
00123 LOGICAL QPHY
00124 LOGICAL QSHF
00125 LOGICAL SN2FLG
00126 LOGICAL QRSW
00127 LOGICAL QRSW

C
00128 LOGICAL LQS
00129 LOGICAL LQU
00130 LOGICAL LTMIN
00131 LOGICAL LTMAX
00132 LOGICAL LPREACC
00133 LOGICAL LPRECON
00134 LOGICAL LHFLUX
00135 LOGICAL LEFLUX
00136 LOGICAL LFUSION
00137 LOGICAL LRADSWG
00138 LOGICAL LRADLWG
00139 LOGICAL LICLOUD

C
00140 LOGICAL LOMEGA
00141 LOGICAL LDIABAT
00142 LOGICAL LRADSW

C
00143 EQUIVALENCE (LC0,LC(1))
00144 LOGICAL LC0, LC(200)

C
C REAL MODEL PARAMETERS SAVED ON HISTORY RECORD
C =====
00145 COMMON /RCNTRL/ R00
00146 COMMON /RCNTRL/ APHEL
00147 COMMON /RCNTRL/ BETA
00148 COMMON /RCNTRL/ COSD
00149 COMMON /RCNTRL/ OP
00150 COMMON /RCNTRL/ DAYSPLY
00151 COMMON /RCNTRL/ DEC
00152 COMMON /RCNTRL/ DECMAX
00153 COMMON /RCNTRL/ DIST
00154 COMMON /RCNTRL/ DLAT
00155 COMMON /RCNTRL/ DLON
00156 COMMON /RCNTRL/ DT
00157 COMMON /RCNTRL/ ECCN

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SCNTRL 109
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SCNTRL 178
SCNTRL 179

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00158	COMMON /RCNTRL/ GNU1	SCNTRL 180
00159	COMMON /RCNTRL/ GNU2	SCNTRL 181
00160	COMMON /RCNTRL/ GRAV	SCNTRL 182
00161	COMMON /RCNTRL/ OMEGA2	SCNTRL 183
00162	COMMON /RCNTRL/ PI	SCNTRL 184
00163	COMMON /RCNTRL/ PI180	SCNTRL 185
00164	COMMON /RCNTRL/ PI2	SCNTRL 186
00165	COMMON /RCNTRL/ PSTD	SCNTRL 187
00166	COMMON /RCNTRL/ PIMEAN	SCNTRL 188
00167	COMMON /RCNTRL/ PS MAX	SCNTRL 189
00168	COMMON /RCNTRL/ PS MIN	SCNTRL 190
00169	COMMON /RCNTRL/ P TOP	SCNTRL 191
00170	COMMON /RCNTRL/ RADE	SCNTRL 192
00171	COMMON /RCNTRL/ RGAS	SCNTRL 193
00172	COMMON /RCNTRL/ ROCP	SCNTRL 194
00173	COMMON /RCNTRL/ RSDIST	SCNTRL 195
00174	COMMON /RCNTRL/ S DAY	SCNTRL 196
00175	COMMON /RCNTRL/ SEASON	SCNTRL 197
00176	COMMON /RCNTRL/ SIGE (25)	SCNTRL 198
00177	COMMON /RCNTRL/ SIND	SCNTRL 199
00178	COMMON /RCNTRL/ SOLS	SCNTRL 200
00179	COMMON /RCNTRL/ TSTD	SCNTRL 201
00180	COMMON /RCNTRL/ PLEVS (25)	SCNTRL 202
00181	COMMON /RCNTRL/ HEATW	SCNTRL 203
00182	COMMON /RCNTRL/ HEATI	SCNTRL 204
00183	COMMON /RCNTRL/ EPS	SCNTRL 205
00184	COMMON /RCNTRL/ EPSFAC	SCNTRL 206
00185	COMMON /RCNTRL/ CALTOJ	SCNTRL 207
00186	COMMON /RCNTRL/ PZERO	SCNTRL 208
C		SCNTRL 209
00187	EQUIVALENCE (RCO,RC(1))	SCNTRL 210
00188	REAL RCO, RC(200)	SCNTRL 211
C		SCNTRL 212
C	INTEGER MODEL CONSTANTS	SCNTRL 213
C	=====	SCNTRL 214
00189	COMMON /IDPARM/ IJUMP (46)	SCNTRL 215
00190	COMMON /IDPARM/ IDSP02	SCNTRL 216
00191	COMMON /IDPARM/ INDEX (72)	SCNTRL 217
00192	COMMON /IDPARM/ IROD	SCNTRL 218
00193	COMMON /IDPARM/ JC (46)	SCNTRL 219
00194	COMMON /IDPARM/ JE (2)	SCNTRL 220
00195	COMMON /IDPARM/ JP (2,2)	SCNTRL 221
00196	COMMON /IDPARM/ KSTEP	SCNTRL 222
00197	COMMON /IDPARM/ MJ (46)	SCNTRL 223
00198	COMMON /IDPARM/ NHMS1	SCNTRL 224
00199	COMMON /IDPARM/ NYMD1	SCNTRL 225
C		SCNTRL 226
C	LOGICAL MODEL CONSTANTS	SCNTRL 227
C	=====	SCNTRL 228
00200	COMMON /LDPARM/ FILTER (46)	SCNTRL 229
00201	COMMON /LDPARM/ ITAPE	SCNTRL 230
00202	COMMON /LDPARM/ START	SCNTRL 231
C		SCNTRL 232
00203	LOGICAL FILTER	SCNTRL 233
00204	LOGICAL ITAPE	SCNTRL 234
00205	LOGICAL START	SCNTRL 235
C		SCNTRL 236
C	REAL MODEL CONSTANTS	SCNTRL 237
C	=====	SCNTRL 238
00206	COMMON /RDPARM/ ADLDP	SCNTRL 239
00207	COMMON /RDPARM/ CON1	SCNTRL 240
00208	COMMON /RDPARM/ CON1DT	SCNTRL 241
00209	COMMON /RDPARM/ CON2	SCNTRL 242
00210	COMMON /RDPARM/ CON2DT	SCNTRL 243
00211	COMMON /RDPARM/ CON3	SCNTRL 244
00212	COMMON /RDPARM/ CON3DT	SCNTRL 245
00213	COMMON /RDPARM/ CON4	SCNTRL 246
00214	COMMON /RDPARM/ CON4DT	SCNTRL 247
00215	COMMON /RDPARM/ CON5	SCNTRL 248
00216	COMMON /RDPARM/ COSL (46)	SCNTRL 249
00217	COMMON /RDPARM/ COSLON (72)	SCNTRL 250

00218	COMMON /RDPARM/	CPD2		SCNTRL	251
00219	COMMON /RDPARM/	DXP	(46)	SCNTRL	252
00220	COMMON /RDPARM/	DXYP	(46)	SCNTRL	253
00221	COMMON /RDPARM/	DYP	(46)	SCNTRL	254
00222	COMMON /RDPARM/	FCORLS	(46)	SCNTRL	255
00223	COMMON /RDPARM/	F1DT		SCNTRL	256
00224	COMMON /RDPARM/	F2DT		SCNTRL	257
00225	COMMON /RDPARM/	H1DT		SCNTRL	258
00226	COMMON /RDPARM/	H2DT		SCNTRL	259
00227	COMMON /RDPARM/	PKSTD		SCNTRL	260
00228	COMMON /RDPARM/	PKTOP		SCNTRL	261
00229	COMMON /RDPARM/	RLAT	(46)	SCNTRL	262
00230	COMMON /RDPARM/	RLATD	(46)	SCNTRL	263
00231	COMMON /RDPARM/	ROCRDT		SCNTRL	264
00232	COMMON /RDPARM/	ROCPP1		SCNTRL	265
00233	COMMON /RDPARM/	SGNP	(2)	SCNTRL	266
00234	COMMON /RDPARM/	SINL	(46)	SCNTRL	267
00235	COMMON /RDPARM/	SINLON	(72)	SCNTRL	268
00236	COMMON /RDPARM/	THSTD		SCNTRL	269
00237	COMMON /RDPARM/	THSTD2		SCNTRL	270
00238	COMMON /RDPARM/	WSAVE	(159)	SCNTRL	271
00239	COMMON /RDPARM/	DSIG	(9)	SCNTRL	272
00240	COMMON /RDPARM/	SIG	(9)	SCNTRL	273
				SCNTRL	274
	C			SCORDER	2
	C	IDENTIFYING LABELS OF MODEL HISTORY RECORD QUANTITIES		SCORDER	3
00241	COMMON /CORDER/	XORDS(19), XORDU(14)		SCORDER	4
00242		CHARACTER*8 XORDS, XORDU		SCORDER	5
	C			SQANDQT	2
	C	GLOBAL MODEL SURFACE FIELDS		SQANDQT	3
00243	COMMON /QANDQT/	QS(72,19,46)		SQANDQT	4
	C			SQANDQT	5
00244	DIMENSION	PHIS(1368,1)		SQANDQT	6
00245	DIMENSION	SMTH(1368,23)		SQANDQT	7
00246	DIMENSION	ALBEDO(1368,1)		SQANDQT	8
00247	DIMENSION	GT(1368,1)		SQANDQT	9
00248	DIMENSION	GW(1368,1)		SQANDQT	10
00249	DIMENSION	TS(1368,1)		SQANDQT	11
00250	DIMENSION	SHS(1368,1)		SQANDQT	12
00251	DIMENSION	P(72,19,1)		SQANDQT	13
00252	DIMENSION	TMIN(1368,1)		SQANDQT	14
00253	DIMENSION	TMAX(1368,1)		SQANDQT	15
00254	DIMENSION	PREACC(1368,1)		SQANDQT	16
00255	DIMENSION	PRECON(1368,1)		SQANDQT	17
00256	DIMENSION	HFLUX(1368,1)		SQANDQT	18
00257	DIMENSION	EFLUX(1368,1)		SQANDQT	19
00258	DIMENSION	FUSION(1368,1)		SQANDQT	20
00259	DIMENSION	RADSWG(1368,1)		SQANDQT	21
00260	DIMENSION	RADLWG(1368,1)		SQANDQT	22
00261	DIMENSION	ICLOUD(1368,1)		SQANDQT	23
	C			SQANDQT	24
00262	EQUIVALENCE	(QS(1,1,1),PHIS(1,1))		SQANDQT	25
00263	EQUIVALENCE	(QS(1,2,1),SMTH(1,1))		SQANDQT	26
00264	EQUIVALENCE	(QS(1,3,1),ALBEDO(1,1))		SQANDQT	27
00265	EQUIVALENCE	(QS(1,4,1),GT(1,1))		SQANDQT	28
00266	EQUIVALENCE	(QS(1,5,1),GW(1,1))		SQANDQT	29
00267	EQUIVALENCE	(QS(1,6,1),TS(1,1))		SQANDQT	30
00268	EQUIVALENCE	(QS(1,7,1),SHS(1,1))		SQANDQT	31
00269	EQUIVALENCE	(QS(1,8,1),P(1,1,1))		SQANDQT	32
00270	EQUIVALENCE	(QS(1,10,1),TMIN(1,1))		SQANDQT	33
00271	EQUIVALENCE	(QS(1,11,1),TMAX(1,1))		SQANDQT	34
00272	EQUIVALENCE	(QS(1,12,1),PREACC(1,1))		SQANDQT	35
00273	EQUIVALENCE	(QS(1,13,1),PRECON(1,1))		SQANDQT	36
00274	EQUIVALENCE	(QS(1,14,1),HFLUX(1,1))		SQANDQT	37
00275	EQUIVALENCE	(QS(1,15,1),EFLUX(1,1))		SQANDQT	38
00276	EQUIVALENCE	(QS(1,16,1),FUSION(1,1))		SQANDQT	39
00277	EQUIVALENCE	(QS(1,17,1),RADSWG(1,1))		SQANDQT	40
00278	EQUIVALENCE	(QS(1,18,1),RADLWG(1,1))		SQANDQT	41
00279	EQUIVALENCE	(QS(1,19,1),ICLOUD(1,1))		SQANDQT	42
	C			SQANDQT	43
	C	GLOBAL MODEL UPPER-AIR FIELDS		SQANDQT	44

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COMMON /QANDQT/ QU(72,9,14,46)
C
00281 DIMENSION U(72,9,14,1)
00282 DIMENSION V(72,9,14,1)
00283 DIMENSION T(72,9,14,1)
00284 DIMENSION SH(72,9,14,1)
00285 DIMENSION PHI(72,9,14,1)
00286 DIMENSION OMEGA(72,126,1)
00287 DIMENSION DIABAT(72,126,1)
00288 DIMENSION RADSW(72,126,1)
00289 DIMENSION RADLW(72,126,1)
C
00290 EQUIVALENCE (QU(1,1,1,1),U(1,1,1,1))
00291 EQUIVALENCE (QU(1,1,3,1),V(1,1,1,1))
00292 EQUIVALENCE (QU(1,1,5,1),T(1,1,1,1))
00293 EQUIVALENCE (QU(1,1,7,1),SH(1,1,1,1))
00294 EQUIVALENCE (QU(1,1,9,1),PHI(1,1,1,1))
00295 EQUIVALENCE (QU(1,1,11,1),OMEGA(1,1,1))
00296 EQUIVALENCE (QU(1,1,12,1),DIABAT(1,1,1))
00297 EQUIVALENCE (QU(1,1,13,1),RADSW(1,1,1))
00298 EQUIVALENCE (QU(1,1,14,1),RADLW(1,1,1))
C
C * * *
C ONE-DIMENSIONAL WORK AREAS
COMMON CARD(10), DATA{144}, CATA{144}
00300 COMMON PK(72,9), PT(72,9)
00301 CHARACTER*8 CARD
C
00302 DATA LUNEXT /14/
C
C DEBUG
00303 10000 CONTINUE
C ***** CYBER SCALAR VERSION 04.001 INPUT,IQQ
C ***** CYBER SCALAR VERSION 04.000
C ***** CYBER SCALAR VERSION 00
C $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$SBEGDEB 7
C STWRITE 45
C ***** STWRITE 46
C ***** STWRITE 47
C WRITE NEXT RECORD ON RESTART FILE ***** STWRITE 48
C ***** STWRITE 49
C ***** STWRITE 50
C ***** STWRITE 51
00304 10 CONTINUE
00305 IF(LFLAG.EQ.6) QRSH = .TRUE.
00306 IF(.NOT.QRSH) GO TO 30
00307 LU = LUNEXT
00308 IF(LU.EQ.12) LUNEXT = 14
00309 IF(LU.EQ.14) LUNEXT = 12
00310 REWIND LU
00311 LOGBR = LFLAG
00312 CALL IOQ (LU,2,0)
00313 DO 20 J=1,JNP
00314 CALL IOQ (LU,2,J)
00315 20 CONTINUE
00316 WRITE (3,6020) LU,NYMD,NHMS,LOGBR,JOB
00317 REWIND LU
00318 IF(LFLAG.EQ.6) QOUT = .FALSE.
00319 30 IF(.NOT,QOUT) GO TO 40
00320 CALL CONHTR
00321 IROD = IROD + 1
00322 WRITE(3,6030) NYMD,NHMS,LOGBR,JOB
00323 IF(.NOT.QRSH) GO TO 40
00324 IROD = IROD + 1
00325 LOGBR = LFLAG
00326 CALL IOQ(8,2,0)
00327 DO 35 J = 1,JNP
00328 CALL IOQ(8,2,J)
00329 35 CONTINUE
00330 LUU = 8

```

```

00331      WRITE(3,6020) LUU,NYMD,NHMS,LOGSR,JOB
00332      40 IF(.NOT.QRSW) GO TO 45
00333      KRS = (LU - 12) / 2 + 1
00334      REWIND 15
00335      WRITE(15,6040) KRS
00336      REWIND 15
00337      45 IF(IROD,GE,MROD) RETURN 1
00338      RETURN
C
00339      6020 FORMAT ('DRESTART RECORD WRITE TO UNIT',I2,4X,
&      ' MODEL TIME ',I6,2X,I6,2X,I4,4X,' JOB ',A8)
00340      6030 FORMAT ('DHISTORY RECORD WRITE TO UNIT08',4X,
&      ' MODEL TIME ',I6,2X,I6,2X,I4,4X,' JOB ',A8)
00341      6040 FORMAT ('PROC(RSPROC,NNNN,RSRUNIT,RSRVOL)'/
&      'BEGIN(P,RSRUNIT,RSR,NNNN,RSRVOL,','I1,','R')'.)
00342      END

```

```

STWRITE 79
STWRITE 80
STWRITE 81
STWRITE 82
STWRITE 83
STWRITE 84
STWRITE 85
STWRITE 86
STWRITE 87
STWRITE 88
STWRITE 89
STWRITE 90
STWRITE 91
STWRITE 92
STWRITE 93
STWRITE 94

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STATEMENT LABEL MAP
--LABEL---DEFINED---REFERENCES

10	304		
10000	303		
20	315	313	
30	319	306	
35	329	327	
40	332	319	323
45	337	332	
6020	339	316	331
6030	340	322	
6040	341	335	

VARIABLE MAP

--NAME-----BLOCK-----TYPE-----CLASS-----REFERENCES

A=ARGLIST, C=CTRL OF DO, I=DATA INIT, R=READ, S=STORE, W=WRITE

NAME	BLOCK	TYPE	CLASS	REFERENCES	A	C	I	R	S	W					
ADATE	CCNTRL	CHAR*8	SIMPLE	3	16										
ADLDP	RDPARM	REAL	SIMPLE	206											
ALBEDO	QANDOT	REAL	ARRAY	246	264										
APHEL	RCNTRL	REAL	SIMPLE	146											
ATIME	CCNTRL	CHAR*8	SIMPLE	4	17										
BETA	RCNTRL	REAL	SIMPLE	147											
CALTOJ	RCNTRL	REAL	SIMPLE	185											
CARD	//	CHAR*8	ARRAY	299	301										
CATA	//	REAL	ARRAY	299											
CC	CCNTRL	CHAR*8	ARRAY	14	15										
CCO	CCNTRL	CHAR*8	SIMPLE	2	14										
CCNTRL		REAL	UNKNOWN	2	3	15	4	5	6	7	8	9	10	11	12
CCSP06	CCNTRL	CHAR*8	SIMPLE	13											
CCSP07	CCNTRL	CHAR*8	SIMPLE	7	20										
CCSP08	CCNTRL	CHAR*8	SIMPLE	8	21										
CON1	RDPARM	REAL	SIMPLE	9	22										
CON1DT	RDPARM	REAL	SIMPLE	207											
CON2	RDPARM	REAL	SIMPLE	208											
CON2DT	RDPARM	REAL	SIMPLE	209											
CON3	RDPARM	REAL	SIMPLE	210											
CON3DT	RDPARM	REAL	SIMPLE	211											
CON4	RDPARM	REAL	SIMPLE	212											
CON4DT	RDPARM	REAL	SIMPLE	213											
CONS	RDPARM	REAL	SIMPLE	214											
CORDER	RDPARM	REAL	SIMPLE	215											
COSD	RCNTRL	REAL	UNKNOWN	241											
COSL	RDPARM	REAL	SIMPLE	148											
COSLON	RDPARM	REAL	ARRAY	216											
CP	RDPARM	REAL	ARRAY	217											
CPD2	RCNTRL	REAL	SIMPLE	149											
QPS	RDPARM	REAL	SIMPLE	218											
QQS	CCNTRL	REAL	ARRAY	12											
QQU	CCNTRL	REAL	ARRAY	13											
DATA	//	REAL	ARRAY	299											
DAYSPPY	RCNTRL	REAL	SIMPLE	150											
DEC	RCNTRL	REAL	SIMPLE	151											
DECMAX	RCNTRL	REAL	SIMPLE	152											

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JNP	ICNTRL	INTEGER	SIMPLE	33	313	327														
JO4	ICNTRL	INTEGER	SIMPLE	34																
JO8	ICNTRL	INTEGER	SIMPLE	35																
JO8	ICNTRL	OHAR+8	SIMPLE	6	19	316/W	322/W	331/W												
JP	IDPARM	INTEGER	ARRAY	195																
JSP	ICNTRL	INTEGER	SIMPLE	36																
KLIALB	ICNTRL	INTEGER	SIMPLE	37																
KLIGW	ICNTRL	INTEGER	SIMPLE	38																
KLISST	ICNTRL	INTEGER	SIMPLE	39																
KRS		INTEGER	SIMPLE	333/S	335/W															
KS	ICNTRL	INTEGER	SIMPLE	40																
KSTEP	IDPARM	INTEGER	SIMPLE	196																
KU	ICNTRL	INTEGER	SIMPLE	41																
LC	LCNTRL	LOGICAL	ARRAY	143	144															
LCO	LCNTRL	LOGICAL	SIMPLE	92	143	144														
LCNTRL		INTEGER	UNKNOWN	92	93	94	95	96	97	98	99	100	101	102						
				103	104															
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	116	141															
LDPARM		INTEGER	UNKNOWN	200	201	202														
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	110	135															
LFLAG		INTEGER	SIMPLE	1	305	311	318	325												
LFUSION	LCNTRL	LOGICAL	UNKNOWN	111	135															
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	109	134															
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	114	139															
LOG8R	ICNTRL	INTEGER	SIMPLE	42	311/S	316/W	322/W	325/S	331/W											
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	115	140															
LPREACC	LCNTRL	LOGICAL	UNKNOWN	107	132															
LPRECON	LCNTRL	LOGICAL	UNKNOWN	108	133															
LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114						
				128																
LQU	LCNTRL	LOGICAL	ARRAY	104	115	116	117	129												
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138															
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	142															
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	112	137															
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131															
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130															
LU		INTEGER	SIMPLE	307/S	308	309	310	312	314	316/W	317	333								
LUNEXT		INTEGER	SIMPLE	302/I	307	308/S	309/S													
LUU		INTEGER	SIMPLE	330/S	331/W															
MATIN	ICNTRL	INTEGER	SIMPLE	43																
MATSNX	ICNTRL	INTEGER	SIMPLE	44																
MATSUN	ICNTRL	INTEGER	SIMPLE	45																
MJ	IDPARM	INTEGER	ARRAY	197																
MLF	ICNTRL	INTEGER	ARRAY	46																
MROD	ICNTRL	INTEGER	SIMPLE	47	337															
MSM	ICNTRL	INTEGER	SIMPLE	49																
NB	ICNTRL	INTEGER	SIMPLE	50																
ND	ICNTRL	INTEGER	SIMPLE	51																
NDALT	ICNTRL	INTEGER	SIMPLE	52																
NDAY	ICNTRL	INTEGER	SIMPLE	53																
NDHOG	ICNTRL	INTEGER	SIMPLE	74																
NDOUT	ICNTRL	INTEGER	SIMPLE	54																
NDPHY	ICNTRL	INTEGER	SIMPLE	55																
NDRSW	ICNTRL	INTEGER	SIMPLE	29																
NDSHF	ICNTRL	INTEGER	SIMPLE	56																
NDT	ICNTRL	INTEGER	SIMPLE	57																
NHMS	ICNTRL	INTEGER	SIMPLE	58	316/W	322/W	331/W													
NHMS0	ICNTRL	INTEGER	SIMPLE	60																
NHMS1	IDPARM	INTEGER	SIMPLE	198																
NHMS2	ICNTRL	INTEGER	SIMPLE	59																
NKRSH	ICNTRL	INTEGER	SIMPLE	48																
NLAY	ICNTRL	INTEGER	SIMPLE	61																
NLAYM1	ICNTRL	INTEGER	SIMPLE	62																
NLAYP1	ICNTRL	INTEGER	SIMPLE	63																
NMLEV	ICNTRL	INTEGER	SIMPLE	73																
NSDAY	ICNTRL	INTEGER	SIMPLE	64																
NSEQ	ICNTRL	INTEGER	SIMPLE	65																
NSTEP	ICNTRL	INTEGER	SIMPLE	67																
NYMD	ICNTRL	INTEGER	SIMPLE	69	316/W	322/W	331/W													
NYMDO	ICNTRL	INTEGER	SIMPLE	71																

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SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125
SOLS	RCNTRL	REAL	SIMPLE	178	
START	LDPARM	LOGICAL	SIMPLE	202	205
T	QANDQT	REAL	ARRAY	283	292
THSTD	RDPARM	REAL	SIMPLE	236	
THSTD2	RDPARM	REAL	SIMPLE	237	
TMAX	QANDQT	REAL	ARRAY	253	271
TMIN	QANDQT	REAL	ARRAY	252	270
TS	QANDQT	REAL	ARRAY	249	267
TSTD	RCNTRL	REAL	SIMPLE	179	
TWRITE			SUBROUTINE	1	
U	QANDQT	REAL	ARRAY	281	290
V	QANDQT	REAL	ARRAY	282	291
VER	CCNTRL	CHAR*8	SIMPLE	10	23
WSAVE	RDPARM	REAL	ARRAY	238	
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24
XORDS	CORDER	CHAR*8	ARRAY	241	242
XORDU	CORDER	CHAR*8	ARRAY	241	242

PROCEDURE MAP

NAME-----TYPE-----CLASS-----REFERENCES D=STMT FN DEF, A=ARGLIST

CONHTR		SUBROUTINE	320			
IOQ		SUBROUTINE	312	314	326	328

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00001 SUBROUTINE VERT
C-----SVERT 2
C PURPOSE SVERT 3
C OMEGA CALCULATION. SVERT 4
C CALLED BY MAIN (GWSGCM) ONLY SVERT 5
C SVERT 6
C USAGE SVERT 7
C COMPUTED JUST BEFORE CALL TO TWRITE. SVERT 8
C SVERT 9
C ARGUMENTS DESCRIPTION SVERT 10
C NONE SVERT 11
C SVERT 12
C SUBPROGRAMS NEEDED SVERT 13
C NAME DESCRIPTION SVERT 14
C NONE SVERT 15
C SVERT 16
C RECORD OF MODIFICATIONS SVERT 17
C BASED ON OLD VERSION 8 COMP1 AND COMP2. SVERT 18
C SVERT 19
C ?DATE? ?PROGRAMMER? ?DESCRIPTION OF MODIFICATIONS? SVERT 20
C 05/04/83 RAMESH THIS PART AND COMMENTS SVERT 21
C SVERT 22
C REMARKS: SVERT 23
C ( 1 ) ?MACHINE DEPENDENT FEATURES, REFERENCES, ERROR RETURNS, ETC.? SVERT 24
C-----SVERT 25
C M / A - C O M S I G M A D A T A I N C . N A S A - G S F C SVERT 26
C-----SVERT 27
C-----SVERT 28
C-----SVERT 29
C CHARACTER MODEL PARAMETERS SAVED ON HISTORY RECORD
C-----SCNTRL 2
C COMMON /CCNTRL/ CCO SCNTRL 3
C COMMON /CCNTRL/ ADATE SCNTRL 4
C COMMON /CCNTRL/ ATIME SCNTRL 5
C COMMON /CCNTRL/ JIC SCNTRL 6
C COMMON /CCNTRL/ JOB SCNTRL 7
C COMMON /CCNTRL/ CCSP06 SCNTRL 8
C COMMON /CCNTRL/ CCSP07 SCNTRL 9
C COMMON /CCNTRL/ CCSP08 SCNTRL 10
C COMMON /CCNTRL/ VER SCNTRL 11
C COMMON /CCNTRL/ XLABEL (10) SCNTRL 12
C COMMON /CCNTRL/ CQS (30) SCNTRL 13
C COMMON /CCNTRL/ CQU (10) SCNTRL 14
C SCNTRL 15
C SCNTRL 16
C SCNTRL 17
C EQUIVALENCE (CCO,CC(1)) SCNTRL 18
C CHARACTER*8 CCO, CC(200) SCNTRL 19
C CHARACTER*8 ADATE SCNTRL 20
C CHARACTER*8 ATIME SCNTRL 21
C CHARACTER*8 JIC SCNTRL 22
C CHARACTER*8 JOB SCNTRL 23
C CHARACTER*8 CCSP06 SCNTRL 24
C CHARACTER*8 CCSP07 SCNTRL 25
C CHARACTER*8 CCSP08 SCNTRL 26
C CHARACTER*8 VER SCNTRL 27
C CHARACTER*8 XLABEL SCNTRL 28
C SCNTRL 29
C INTEGER MODEL PARAMETERS SAVED ON HISTORY RECORD
C-----SCNTRL 30
C COMMON /ICNTRL/ ICO SCNTRL 31
C COMMON /ICNTRL/ IM SCNTRL 32
C COMMON /ICNTRL/ IMD2 SCNTRL 33
C COMMON /ICNTRL/ IMD2P1 SCNTRL 34
C COMMON /ICNTRL/ NDRSW SCNTRL 35
C COMMON /ICNTRL/ JM SCNTRL 36
C COMMON /ICNTRL/ JMD2 SCNTRL 37
C COMMON /ICNTRL/ JMT2 SCNTRL 38
C COMMON /ICNTRL/ JNP SCNTRL 39
C COMMON /ICNTRL/ JO4 SCNTRL 40
C COMMON /ICNTRL/ JO8 SCNTRL 41
C COMMON /ICNTRL/ JSP SCNTRL 42
C COMMON /ICNTRL/ KLIALB SCNTRL 43
C SCNTRL 44

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00038	COMMON /ICNTRL/ KLIW	SCNTRL 45
00039	COMMON /ICNTRL/ KLISS	SCNTRL 46
00040	COMMON /ICNTRL/ KS	SCNTRL 47
00041	COMMON /ICNTRL/ KU	SCNTRL 48
00042	COMMON /ICNTRL/ LOGBR	SCNTRL 49
00043	COMMON /ICNTRL/ MATIN	SCNTRL 50
00044	COMMON /ICNTRL/ MATSNX	SCNTRL 51
00045	COMMON /ICNTRL/ MATSUN	SCNTRL 52
00046	COMMON /ICNTRL/ MLF (12)	SCNTRL 53
00047	COMMON /ICNTRL/ MROD	SCNTRL 54
00048	COMMON /ICNTRL/ NKRS	SCNTRL 55
00049	COMMON /ICNTRL/ MSM	SCNTRL 56
00050	COMMON /ICNTRL/ NB	SCNTRL 57
00051	COMMON /ICNTRL/ ND	SCNTRL 58
00052	COMMON /ICNTRL/ NDALT	SCNTRL 59
00053	COMMON /ICNTRL/ NDAY	SCNTRL 60
00054	COMMON /ICNTRL/ NDOUT	SCNTRL 61
00055	COMMON /ICNTRL/ NDRHY	SCNTRL 62
00056	COMMON /ICNTRL/ NDSHF	SCNTRL 63
00057	COMMON /ICNTRL/ NDT	SCNTRL 64
00058	COMMON /ICNTRL/ NHMS	SCNTRL 65
00059	COMMON /ICNTRL/ NHMS	SCNTRL 66
00060	COMMON /ICNTRL/ NHMS0	SCNTRL 67
00061	COMMON /ICNTRL/ NLAY	SCNTRL 68
00062	COMMON /ICNTRL/ NLAYM1	SCNTRL 69
00063	COMMON /ICNTRL/ NLAYP1	SCNTRL 70
00064	COMMON /ICNTRL/ NSDAY	SCNTRL 71
00065	COMMON /ICNTRL/ NSEQ	SCNTRL 72
00066	COMMON /ICNTRL/ ICSP53	SCNTRL 73
00067	COMMON /ICNTRL/ NSTEP	SCNTRL 74
00068	COMMON /ICNTRL/ ICSP55	SCNTRL 75
00069	COMMON /ICNTRL/ NYMD	SCNTRL 76
00070	COMMON /ICNTRL/ NYMDE	SCNTRL 77
00071	COMMON /ICNTRL/ NYMDO	SCNTRL 78
00072	COMMON /ICNTRL/ NZINIT	SCNTRL 79
00073	COMMON /ICNTRL/ NMLEV	SCNTRL 80
00074	COMMON /ICNTRL/ NDHOG	SCNTRL 81
00075	COMMON /ICNTRL/ IQS (30)	SCNTRL 82
00076	COMMON /ICNTRL/ IQU (10)	SCNTRL 83
C		
00077	EQUIVALENCE (ITMIN ,IQS(1))	SCNTRL 84
00078	EQUIVALENCE (ITMAX ,IQS(2))	SCNTRL 85
00079	EQUIVALENCE (IPREACC ,IQS(3))	SCNTRL 86
00080	EQUIVALENCE (IPRECON ,IQS(4))	SCNTRL 87
00081	EQUIVALENCE (IHFLUX ,IQS(5))	SCNTRL 88
00082	EQUIVALENCE (IEFLUX ,IQS(6))	SCNTRL 89
00083	EQUIVALENCE (IFUSION ,IQS(7))	SCNTRL 90
00084	EQUIVALENCE (IRADSWG ,IQS(8))	SCNTRL 91
00085	EQUIVALENCE (IRADLWG ,IQS(9))	SCNTRL 92
00086	EQUIVALENCE (IICLOUD ,IQS(10))	SCNTRL 93
C		
00087	EQUIVALENCE (IOMEGA ,IQU(1))	SCNTRL 94
00088	EQUIVALENCE (IDIABAT ,IQU(2))	SCNTRL 95
00089	EQUIVALENCE (IRADSW ,IQU(3))	SCNTRL 96
C		
00090	EQUIVALENCE (IC0,IC(1))	SCNTRL 97
00091	INTEGER IC0, IC(200)	SCNTRL 98
C		
C		
C		
LOGICAL MODEL PARAMETERS SAVED ON HISTORY RECORD		
=====		
00092	COMMON /LCNTRL/ LCO	SCNTRL 99
00093	COMMON /LCNTRL/ QALT	SCNTRL 100
00094	COMMON /LCNTRL/ QBEG	SCNTRL 101
00095	COMMON /LCNTRL/ QDAY	SCNTRL 102
00096	COMMON /LCNTRL/ QEND	SCNTRL 103
00097	COMMON /LCNTRL/ QOUT	SCNTRL 104
00098	COMMON /LCNTRL/ QPHY	SCNTRL 105
00099	COMMON /LCNTRL/ QSHF	SCNTRL 106
00100	COMMON /LCNTRL/ SN2FLG	SCNTRL 107
00101	COMMON /LCNTRL/ QRSW	SCNTRL 108
00102	COMMON /LCNTRL/ QRSH	SCNTRL 109
		SCNTRL 110
		SCNTRL 111
		SCNTRL 112
		SCNTRL 113
		SCNTRL 114
		SCNTRL 115

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00103		COMMON /LCNTRL/ LQS(30)	SCNTRL 116
00104		COMMON /LCNTRL/ LQU(10)	SCNTRL 117
	C		SCNTRL 118
00105		EQUIVALENCE (LTMIN ,LQS(1))	SCNTRL 119
00106		EQUIVALENCE (LTMAX ,LQS(2))	SCNTRL 120
00107		EQUIVALENCE (LPREACC ,LQS(3))	SCNTRL 121
00108		EQUIVALENCE (LPRECON ,LQS(4))	SCNTRL 122
00109		EQUIVALENCE (LHFLUX ,LQS(5))	SCNTRL 123
00110		EQUIVALENCE (LEFLUX ,LQS(6))	SCNTRL 124
00111		EQUIVALENCE (LFUSION ,LQS(7))	SCNTRL 125
00112		EQUIVALENCE (LRADSWG ,LQS(8))	SCNTRL 126
00113		EQUIVALENCE (LRADLWG ,LQS(9))	SCNTRL 127
00114		EQUIVALENCE (LICLOUD ,LQS(10))	SCNTRL 128
	C		SCNTRL 129
00115		EQUIVALENCE (LOMEGA ,LQU(1))	SCNTRL 130
00116		EQUIVALENCE (LDIABAT ,LQU(2))	SCNTRL 131
00117		EQUIVALENCE (LRADSW ,LQU(3))	SCNTRL 132
	C		SCNTRL 133
00118		LOGICAL QALT	SCNTRL 134
00119		LOGICAL QBEG	SCNTRL 135
00120		LOGICAL QDAY	SCNTRL 136
00121		LOGICAL QEND	SCNTRL 137
00122		LOGICAL QOUT	SCNTRL 138
00123		LOGICAL OPHY	SCNTRL 139
00124		LOGICAL QSHF	SCNTRL 140
00125		LOGICAL SN2FLG	SCNTRL 141
00126		LOGICAL QRSW	SCNTRL 142
00127		LOGICAL QRSW	SCNTRL 143
	C		SCNTRL 144
00128		LOGICAL LQS	SCNTRL 145
00129		LOGICAL LQU	SCNTRL 146
00130		LOGICAL LTMIN	SCNTRL 147
00131		LOGICAL LTMAX	SCNTRL 148
00132		LOGICAL LPREACC	SCNTRL 149
00133		LOGICAL LPRECON	SCNTRL 150
00134		LOGICAL LHFLUX	SCNTRL 151
00135		LOGICAL LEFLUX	SCNTRL 152
00136		LOGICAL LFUSION	SCNTRL 153
00137		LOGICAL LRADSWG	SCNTRL 154
00138		LOGICAL LRADLWG	SCNTRL 155
00139		LOGICAL LICLOUD	SCNTRL 156
	C		SCNTRL 157
00140		LOGICAL LOMEGA	SCNTRL 158
00141		LOGICAL LDIABAT	SCNTRL 159
00142		LOGICAL LRADSW	SCNTRL 160
	C		SCNTRL 161
00143		EQUIVALENCE (LCO,LC(1))	SCNTRL 162
00144		LOGICAL LCO, LC(200)	SCNTRL 163
	C		SCNTRL 164
	C	REAL MODEL PARAMETERS SAVED ON HISTORY RECORD	SCNTRL 165
	C	=====	SCNTRL 166
00145		COMMON /RCNTRL/ RCO	SCNTRL 167
00146		COMMON /RCNTRL/ APHEL	SCNTRL 168
00147		COMMON /RCNTRL/ BETA	SCNTRL 169
00148		COMMON /RCNTRL/ COSD	SCNTRL 170
00149		COMMON /RCNTRL/ CP	SCNTRL 171
00150		COMMON /RCNTRL/ DAYSPY	SCNTRL 172
00151		COMMON /RCNTRL/ DEC	SCNTRL 173
00152		COMMON /RCNTRL/ DECMAX	SCNTRL 174
00153		COMMON /RCNTRL/ DIST	SCNTRL 175
00154		COMMON /RCNTRL/ DLAT	SCNTRL 176
00155		COMMON /RCNTRL/ DLON	SCNTRL 177
00156		COMMON /RCNTRL/ DT	SCNTRL 178
00157		COMMON /RCNTRL/ ECGN	SCNTRL 179
00158		COMMON /RCNTRL/ GNU1	SCNTRL 180
00159		COMMON /RCNTRL/ GNU2	SCNTRL 181
00160		COMMON /RCNTRL/ GRAV	SCNTRL 182
00161		COMMON /RCNTRL/ OMEGA2	SCNTRL 183
00162		COMMON /RCNTRL/ PI	SCNTRL 184
00163		COMMON /RCNTRL/ PI180	SCNTRL 185
00164		COMMON /RCNTRL/ PI2	SCNTRL 186

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00165 COMMON /RCNTRL/ PSTD
00166 COMMON /RCNTRL/ PIMEAN
00167 COMMON /RCNTRL/ PSMAX
00168 COMMON /RCNTRL/ PSMIN
00169 COMMON /RCNTRL/ PTOP
00170 COMMON /RCNTRL/ RADE
00171 COMMON /RCNTRL/ RGAS
00172 COMMON /RCNTRL/ ROCP
00173 COMMON /RCNTRL/ RSDIST
00174 COMMON /RCNTRL/ SDAY
00175 COMMON /RCNTRL/ SEASON
00176 COMMON /RCNTRL/ SIGE (25)
00177 COMMON /RCNTRL/ SIND
00178 COMMON /RCNTRL/ SOLS
00179 COMMON /RCNTRL/ TSTD
00180 COMMON /RCNTRL/ PLEVS (25)
00181 COMMON /RCNTRL/ HEATW
00182 COMMON /RCNTRL/ HEATI
00183 COMMON /RCNTRL/ EPS
00184 COMMON /RCNTRL/ EPSFAC
00185 COMMON /RCNTRL/ CALTOJ
00186 COMMON /RCNTRL/ PZERO

C
00187 EQUIVALENCE (RCO, RC(1))
00188 REAL RCO, RC(200)

C
C INTEGER MODEL CONSTANTS
C =====
00189 COMMON /IDPARM/ IJUMP (46)
00190 COMMON /IDPARM/ IDSP02
00191 COMMON /IDPARM/ INDEX (72)
00192 COMMON /IDPARM/ IROD
00193 COMMON /IDPARM/ JC (46)
00194 COMMON /IDPARM/ JE (2)
00195 COMMON /IDPARM/ JP (2,2)
00196 COMMON /IDPARM/ KSTEP
00197 COMMON /IDPARM/ MJ (46)
00198 COMMON /IDPARM/ NHMS1
00199 COMMON /IDPARM/ NYMD1

C
C LOGICAL MODEL CONSTANTS
C =====
00200 COMMON /LDPARM/ FILTER (46)
00201 COMMON /LDPARM/ ITAPE
00202 COMMON /LDPARM/ START

C
00203 LOGICAL FILTER
00204 LOGICAL ITAPE
00205 LOGICAL START

C
C REAL MODEL CONSTANTS
C =====
00206 COMMON /RDPARM/ ADLDP
00207 COMMON /RDPARM/ CON1
00208 COMMON /RDPARM/ CON1DT
00209 COMMON /RDPARM/ CON2
00210 COMMON /RDPARM/ CON2DT
00211 COMMON /RDPARM/ CON3
00212 COMMON /RDPARM/ CON3DT
00213 COMMON /RDPARM/ CON4
00214 COMMON /RDPARM/ CON4DT
00215 COMMON /RDPARM/ CON5
00216 COMMON /RDPARM/ COSL (46)
00217 COMMON /RDPARM/ COSLON (72)
00218 COMMON /RDPARM/ CPD2
00219 COMMON /RDPARM/ DXP (46)
00220 COMMON /RDPARM/ DXYP (46)
00221 COMMON /RDPARM/ DYP (46)
00222 COMMON /RDPARM/ FCORLS (46)
00223 COMMON /RDPARM/ F1DT
00224 COMMON /RDPARM/ F2DT

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00225 COMMON /RDPARM/ H1DT
00226 COMMON /RDPARM/ H2DT
00227 COMMON /RDPARM/ PKSTD
00228 COMMON /RDPARM/ PKTOP
00229 COMMON /RDPARM/ RLAT (46)
00230 COMMON /RDPARM/ RLATD (46)
00231 COMMON /RDPARM/ ROCPPD
00232 COMMON /RDPARM/ ROCPP1
00233 COMMON /RDPARM/ SGNP (2)
00234 COMMON /RDPARM/ SINL (46)
00235 COMMON /RDPARM/ SINLON (72)
00236 COMMON /RDPARM/ THSTD
00237 COMMON /RDPARM/ THSTD2
00238 COMMON /RDPARM/ WSAVE (159)
00239 COMMON /RDPARM/ DSIG (9)
00240 COMMON /RDPARM/ SIG (9)

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GLOBAL MODEL SURFACE FIELDS
COMMON /QANDQT/ QS(72,19,46)

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00241 DIMENSION PHIS(1368,1)
00242 DIMENSION SMTH(1368,23)
00243 DIMENSION ALBEDO(1368,1)
00244 DIMENSION GT(1368,1)
00245 DIMENSION GW(1368,1)
00246 DIMENSION TS(1368,1)
00247 DIMENSION SHS(1368,1)
00248 DIMENSION P(72,19,1)
00249 DIMENSION TMIN(1368,1)
00250 DIMENSION TMAX(1368,1)
00251 DIMENSION PREACC(1368,1)
00252 DIMENSION PRECON(1368,1)
00253 DIMENSION HFLUX(1368,1)
00254 DIMENSION EFLUX(1368,1)
00255 DIMENSION FUSION(1368,1)
00256 DIMENSION RADSWG(1368,1)
00257 DIMENSION RADLWG(1368,1)
00258 DIMENSION ICLOUD(1368,1)
00259
00260 EQUIVALENCE (QS(1,1,1),PHIS(1,1))
00261 EQUIVALENCE (QS(1,2,1),SMTH(1,1))
00262 EQUIVALENCE (QS(1,3,1),ALBEDO(1,1))
00263 EQUIVALENCE (QS(1,4,1),GT(1,1))
00264 EQUIVALENCE (QS(1,5,1),GW(1,1))
00265 EQUIVALENCE (QS(1,6,1),TS(1,1))
00266 EQUIVALENCE (QS(1,7,1),SHS(1,1))
00267 EQUIVALENCE (QS(1,8,1),P(1,1,1))
00268 EQUIVALENCE (QS(1,10,1),TMIN(1,1))
00269 EQUIVALENCE (QS(1,11,1),TMAX(1,1))
00270 EQUIVALENCE (QS(1,12,1),PREACC(1,1))
00271 EQUIVALENCE (QS(1,13,1),PRECON(1,1))
00272 EQUIVALENCE (QS(1,14,1),HFLUX(1,1))
00273 EQUIVALENCE (QS(1,15,1),EFLUX(1,1))
00274 EQUIVALENCE (QS(1,16,1),FUSION(1,1))
00275 EQUIVALENCE (QS(1,17,1),RADSWG(1,1))
00276 EQUIVALENCE (QS(1,18,1),RADLWG(1,1))
00277 EQUIVALENCE (QS(1,19,1),ICLOUD(1,1))

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GLOBAL MODEL UPPER-AIR FIELDS
COMMON /QANDQT/ QU(72,9,14,46)

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00278 DIMENSION U(72,9,14,1)
00279 DIMENSION V(72,9,14,1)
00280 DIMENSION T(72,9,14,1)
00281 DIMENSION SH(72,9,14,1)
00282 DIMENSION PHI(72,9,14,1)
00283 DIMENSION OMEGA(72,126,1)
00284 DIMENSION DIABAT(72,126,1)
00285 DIMENSION RADSW(72,126,1)
00286 DIMENSION RADLW(72,126,1)
00287

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KLISST	ICNTRL	INTEGER	SIMPLE	39										
KP1		INTEGER	SIMPLE	321/S	345	348	351	355	355					
KP2		INTEGER	SIMPLE	322/S	350	352	354							
KS	ICNTRL	INTEGER	SIMPLE	40										
KSTEP	IDPARM	INTEGER	SIMPLE	196										
KU	ICNTRL	INTEGER	SIMPLE	41										
L		INTEGER	SIMPLE	323/C	324	325	345	346	347	348	350	351	351	352
				352	354	355	355	356	356	359	359	359	362	362
				362	372/C	373	376/C	377	378	388/C	389	398	398	401
				402	403	413/C	414	415	417	433	433	433	450	450
				450	452	452								
LC	LCNTRL	LOGICAL	ARRAY	143	144									
LC0	LCNTRL	LOGICAL	SIMPLE	92	143	144								
LCNTRL		INTEGER	UNKNOWN	92	93	94	95	96	97	98	99	100	101	102
LDIABAT	LCNTRL	LOGICAL	UNKNOWN	103	104									
LDPARM		INTEGER	UNKNOWN	116	141									
LEFLUX	LCNTRL	LOGICAL	UNKNOWN	200	201	202								
LFUSION	LCNTRL	LOGICAL	UNKNOWN	110	135									
LHFLUX	LCNTRL	LOGICAL	UNKNOWN	111	136									
LICLOUD	LCNTRL	LOGICAL	UNKNOWN	109	134									
LNB		INTEGER	SIMPLE	114	139									
				325/S	330	331	332	333	339	347	348	350	389/S	393
				395	415/S	416	417	432	432	448	448			
LND		INTEGER	SIMPLE	324/S	414/S									
LOGSR	ICNTRL	INTEGER	SIMPLE	42										
LOMEGA	LCNTRL	LOGICAL	UNKNOWN	115	140									
LPREACC	LCNTRL	LOGICAL	UNKNOWN	107	132									
LPRECON	LCNTRL	LOGICAL	UNKNOWN	108	133									
LQS	LCNTRL	LOGICAL	ARRAY	103	105	106	107	108	109	110	111	112	113	114
				128										
LQU	LCNTRL	LOGICAL	ARRAY	104	115	116	117	129						
LRADLWG	LCNTRL	LOGICAL	UNKNOWN	113	138									
LRADSW	LCNTRL	LOGICAL	UNKNOWN	117	142									
LRADSWG	LCNTRL	LOGICAL	UNKNOWN	112	137									
LTMAX	LCNTRL	LOGICAL	UNKNOWN	106	131									
LTMIN	LCNTRL	LOGICAL	UNKNOWN	105	130									
LWE		INTEGER	SIMPLE	416/S	417/S	432	432	448	448					
M		INTEGER	SIMPLE	383/S	384/S	385	386	387	398	403	442/S	443/S	444	448
				448	448	448	448	448	448					
MATIN	ICNTRL	INTEGER	SIMPLE	43										
MATSNX	ICNTRL	INTEGER	SIMPLE	44										
MATSUN	ICNTRL	INTEGER	SIMPLE	45										
MJ	IDPARM	INTEGER	ARRAY	197										
MLF	ICNTRL	INTEGER	ARRAY	46										
MROD	ICNTRL	INTEGER	SIMPLE	47										
MSM	ICNTRL	INTEGER	SIMPLE	49										
NB	ICNTRL	INTEGER	SIMPLE	50	316	330	331	332	333	339	347	348	350	393
				395	428	428	429	429	430	430	431	431	448	448
				51	315									
ND	ICNTRL	INTEGER	SIMPLE	52										
NDALT	ICNTRL	INTEGER	SIMPLE	53										
NDAY	ICNTRL	INTEGER	SIMPLE	54										
NDHOG	ICNTRL	INTEGER	SIMPLE	74										
NDOUT	ICNTRL	INTEGER	SIMPLE	55										
NOPHY	ICNTRL	INTEGER	SIMPLE	55										
NDRSW	ICNTRL	INTEGER	SIMPLE	29										
NDSHF	ICNTRL	INTEGER	SIMPLE	56										
NDT	ICNTRL	INTEGER	SIMPLE	57										
NHMS	ICNTRL	INTEGER	SIMPLE	58										
NHMS0	ICNTRL	INTEGER	SIMPLE	60										
NHMS1	IDPARM	INTEGER	SIMPLE	198										
NHMSE	ICNTRL	INTEGER	SIMPLE	59										
NKRSH	ICNTRL	INTEGER	SIMPLE	48										
NLAY	ICNTRL	INTEGER	SIMPLE	61	315	316	323	371	388	413	417			
NLAYM1	ICNTRL	INTEGER	SIMPLE	62	372	376	401							
NLAYNB		INTEGER	SIMPLE	316/S	325	389	415							
NLAYND		INTEGER	SIMPLE	315/S	324	414								
NLAYP1	ICNTRL	INTEGER	SIMPLE	63										
NMLEV	ICNTRL	INTEGER	SIMPLE	73										
NSDAY	ICNTRL	INTEGER	SIMPLE	64										

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NSEQ	ICNTRL	INTEGER	SIMPLE	65																
NSTEP	ICNTRL	INTEGER	SIMPLE	67																
NYMD	ICNTRL	INTEGER	SIMPLE	69																
NYMDO	ICNTRL	INTEGER	SIMPLE	71																
NYMDI	IDPARM	INTEGER	SIMPLE	198																
NYMDE	ICNTRL	INTEGER	SIMPLE	70																
NZINIT	ICNTRL	INTEGER	SIMPLE	72																
OMEGA	QANDQT	REAL	ARRAY	284	293	378/S	403/S	433/S	433	450/S	450	452/S	452							
OMEGA2	RCNTRL	REAL	SIMPLE	161																
P	QANDQT	REAL	ARRAY	249	267	330	331	332	333	338	347	348	350	393						
				385	428	428	429	429	430	430	431	431	448	448						
				432/S	433															
PDOT		REAL	SIMPLE	283	292															
PHI	QANDQT	REAL	ARRAY	308																
PHIM	QMSAVE	REAL	ARRAY	302																
PHIP	QPOLES	REAL	ARRAY	242	260															
PHIS	QANDQT	REAL	ARRAY	162																
PI	RCNTRL	REAL	SIMPLE	163																
PI180	RCNTRL	REAL	SIMPLE	164																
PI2	RCNTRL	REAL	SIMPLE	166																
PIMEAN	RCNTRL	REAL	SIMPLE	310	371/S	373/S	373													
PIT	QMSAVE	REAL	ARRAY	227																
PKSTD	RDPARM	REAL	SIMPLE	228																
PKTOP	RDPARM	REAL	SIMPLE	180																
PLEVS	RCNTRL	REAL	ARRAY	303																
PM	QMSAVE	REAL	ARRAY	297																
PP	QPOLES	REAL	ARRAY	252	270															
PREACC	QANDQT	REAL	ARRAY	253	271															
PRECON	QANDQT	REAL	ARRAY	167																
PSMAX	RCNTRL	REAL	SIMPLE	168																
PSMIN	RCNTRL	REAL	SIMPLE	165																
PSTD	RCNTRL	REAL	SIMPLE	169																
PTOP	RCNTRL	REAL	SIMPLE	313	330/S	331/S	332/S	333/S	334	334	335	335	336	336						
PU	//	REAL	ARRAY	339/S	340	340	341	341												
				313	335/S	340/S	341	341												
PU1	//	REAL	ARRAY	313	334/S	336/S	341/S	341/S	359	359	359	359	359	359						
PU2	//	REAL	ARRAY	309	347/S	348/S	350/S	351	352	352	359	359	359	359						
PV	QMSAVE	REAL	ARRAY	351/S	355	356	393/S	394												
PV1		REAL	SIMPLE	390/S	394/S	394	398													
PV1S		REAL	SIMPLE	352/S	354	356	395/S	396												
PV2		REAL	SIMPLE	391/S	396/S	396	398													
PV2S		REAL	SIMPLE	446/S	448/S	448	450													
PVDS		REAL	SIMPLE	428/S	432															
PX1		REAL	SIMPLE	429/S	432															
PX2		REAL	SIMPLE	430/S	432															
PY1		REAL	SIMPLE	431/S	432															
PY2		REAL	SIMPLE	186																
PZERO	RCNTRL	REAL	SIMPLE	93	118															
QALT	LCNTRL	LOGICAL	SIMPLE	241	278															
QANDQT		REAL	UNKNOWN	94	119															
QBEG	LCNTRL	LOGICAL	SIMPLE	95	120															
QDAY	LCNTRL	LOGICAL	SIMPLE	96	121															
QEND	LCNTRL	LOGICAL	SIMPLE	303	304	305	306	307	308	309	310	311	312							
QMSAVE		REAL	UNKNOWN	97	122															
QOUT	LCNTRL	LOGICAL	SIMPLE	98	123															
QPHY	LCNTRL	LOGICAL	SIMPLE	297	298	299	300	301	302											
QPOLES		REAL	UNKNOWN	102	127															
QRSH	LCNTRL	LOGICAL	SIMPLE	101	126															
QRSW	LCNTRL	LOGICAL	SIMPLE	241	260	261	262	263	264	265	266	267	268	269						
QS	QANDQT	REAL	ARRAY	270	271	272	273	274	275	276	277									
				99	124															
QSHF	LCNTRL	LOGICAL	SIMPLE	278	288	289	290	291	292	293	294	295	296							
QU	QANDQT	REAL	ARRAY	170																
RADE	RCNTRL	REAL	SIMPLE	287	296															
RADLW	QANDQT	REAL	ARRAY	258	276															
RADLWG	QANDQT	REAL	ARRAY	286	295															
RADSW	QANDQT	REAL	ARRAY	257	275															
RADSWG	QANDQT	REAL	ARRAY	187	188															
RC	RCNTRL	REAL	ARRAY	145	187	188														
RCO	RCNTRL	REAL	SIMPLE	145	146	147	148	149	150	151	152	153	154	155						
RCNTRL		REAL	UNKNOWN																	

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				155	157	158	159	160	161	162	163	164	165	166
				167	168	169	170	171	172	173	174	175	176	177
				178	179	180	181	182	183	184	185	186		
RDPARM		REAL	UNKNOWN	206	207	208	209	210	211	212	213	214	215	216
				217	218	219	220	221	222	223	224	225	226	227
				228	229	230	231	232	233	234	235	236	237	238
				239	240									
RGAS	RCNTRL	REAL	SIMPLE	171										
RLAT	RDPARM	REAL	ARRAY	229										
RLATD	RDPARM	REAL	ARRAY	230										
ROCP	RCNTRL	REAL	SIMPLE	172										
ROCPDT	RDPARM	REAL	SIMPLE	231										
ROCPPI	RDPARM	REAL	SIMPLE	232										
RSDIST	RCNTRL	REAL	SIMPLE	173										
SD	QMSAVE	REAL	ARRAY	311										
SD2		REAL	SIMPLE	375/S	377/S	377	378	400/S	402/S	402	403			
SDAY	RCNTRL	REAL	SIMPLE	174										
SEASON	RCNTRL	REAL	SIMPLE	175										
SGNP	RDPARM	REAL	ARRAY	233	398	448								
SH	QANDQT	REAL	ARRAY	282	291									
SHM	QMSAVE	REAL	ARRAY	307										
SHP	QPOLES	REAL	ARRAY	301										
SHS	QANDQT	REAL	ARRAY	248	266									
SIG	RDPARM	REAL	ARRAY	240										
SIGE	RCNTRL	REAL	ARRAY	176	433	450								
SIND	RCNTRL	REAL	SIMPLE	177										
SINL	RDPARM	REAL	ARRAY	234										
SINLON	RDPARM	REAL	ARRAY	235	448									
SMTH	QANDQT	REAL	ARRAY	243	261									
SN2FLG	LCNTRL	LOGICAL	SIMPLE	100	125									
SOLS	RCNTRL	REAL	SIMPLE	178										
START	LDPARM	LOGICAL	SIMPLE	202	205									
T	QANDQT	REAL	ARRAY	281	290									
TERMT	QMSAVE	REAL	ARRAY	312										
TERMW	QMSAVE	REAL	ARRAY	312										
THSTD	RDPARM	REAL	SIMPLE	236										
THSTD2	RDPARM	REAL	SIMPLE	237										
TM	QMSAVE	REAL	ARRAY	306										
TMAX	QANDQT	REAL	ARRAY	251	269									
TMIN	QANDQT	REAL	ARRAY	250	268									
TP	QPOLES	REAL	ARRAY	300										
TS	QANDQT	REAL	ARRAY	247	265									
TSTD	RCNTRL	REAL	SIMPLE	179										
U	QANDQT	REAL	ARRAY	279	288	330	331	332	333	339	432	432		
UM	QMSAVE	REAL	ARRAY	304										
UP	QPOLES	REAL	ARRAY	298	448	448								
V	QANDQT	REAL	ARRAY	280	289	347	348	350	393	395	432	432		
VER	CCNTRL	CHAR*8	SIMPLE	10	23									
VERT			SUBROUTINE	1										
VM	QMSAVE	REAL	ARRAY	305										
VP	QPOLES	REAL	ARRAY	299	448	448								
WSAVE	RDPARM	REAL	ARRAY	238										
XLABEL	CCNTRL	CHAR*8	ARRAY	11	24									

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